Electrical World

NEWS ISSUE NOVEMBER 30, 1946

Duane Swanson, New President, National Association of Railroad and Utilities Commissioners

A McGRAW-HILL PUBLICATION

A BIG NEW LOAD FOR TOMORROW . . .

THAT YOU CAN START BUILDING TODAY

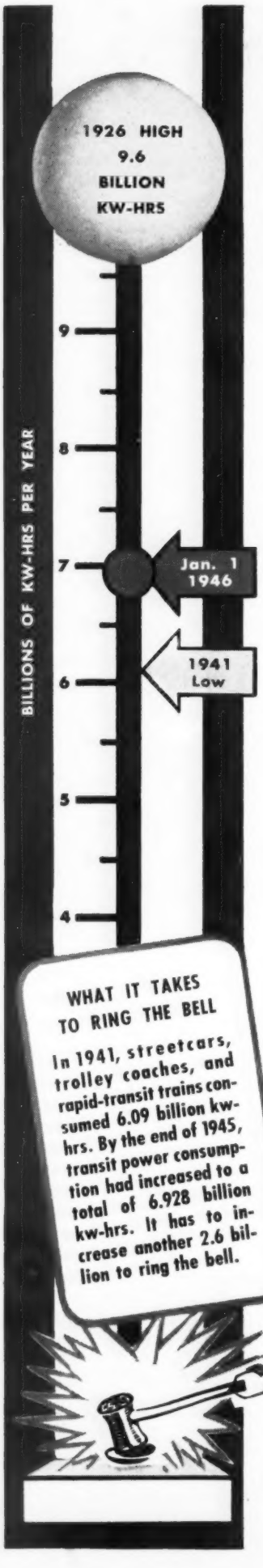
Here's an opportunity to rebuild the transit power load, which dropped 3½ billion kw-hrs from 1926 to 1941.

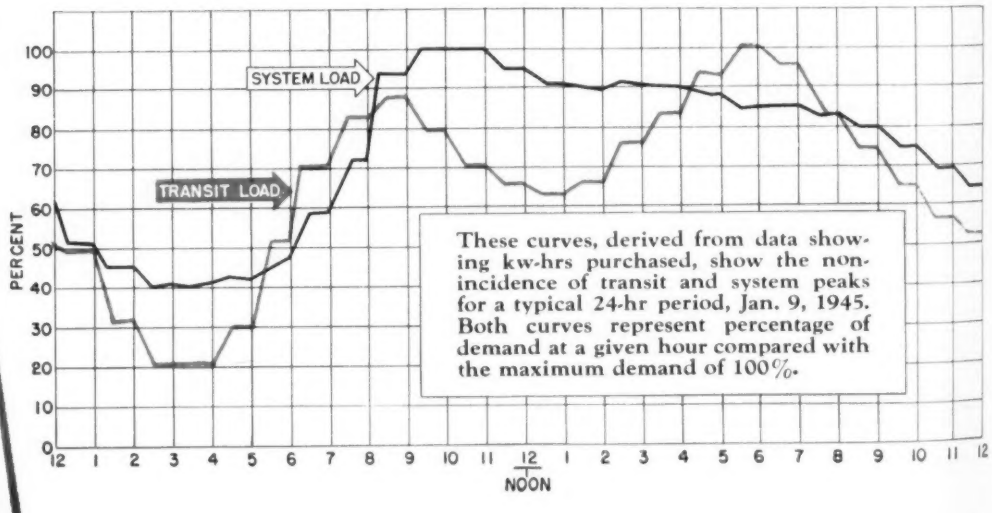
AN all-time high of 4500 modern streetcars and trolley coaches have been purchased in the past 18 months. According to the transit industry's present plans, 12,000 additional electric vehicles will be purchased within the next few years—and that's only the beginning. The ultimate load-building possibilities of the new transit industry are tremendous!

In an average city of 200,000 population, one transit company could profitably operate 150 trolley coaches —a 27 million annual kw-hr load. A large city of one million people could economically use 950 trolley coaches and 300 modern streetcars—or 236.5 million kw-hrs annually.

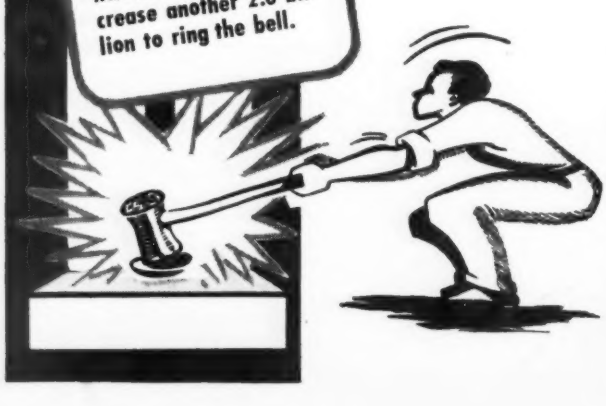
Here's why utility men are actively interested in the new transit load: Its potential size may be greater than that of any other single industrial or commercial activity. An annual load factor as high as 53 per cent adds to its attractiveness. Its peaks do not coincide generally with system peaks, as shown on the typical curves below.

While civic improvements and transit modernization plans are snowballing in almost every city, why not investigate the possibility of modern electrics for your community? By actively promoting their application now, you can start building a new, bigger load for tomorrow. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*


1926 HIGH
9.6
BILLION
KW-HRS
BILLIONS OF KW-HRS PER YEAR
9
8
7
6
5
4
Jan. 1
1946
1941
Low
WHAT IT TAKES TO RING THE BELL
In 1941, streetcars, trolley coaches, and rapid-transit trains consumed 6.09 billion kw-hrs. By the end of 1945, transit power consumption had increased to a total of 6.928 billion kw-hrs. It has to increase another 2.6 billion to ring the bell.



These curves, derived from data showing kw-hrs purchased, show the non-incidence of transit and system peaks for a typical 24-hr period, Jan. 9, 1945. Both curves represent percentage of demand at a given hour compared with the maximum demand of 100%.



Lifestream of the City, a new More Power to America sound, color movie, presents the city traffic problem in a new light. You'll like it. It promotes the use of electricity as the most efficient means of providing urban transportation. If you haven't yet seen it, ask your G-E representative to arrange for a showing.

GENERAL ELECTRIC

ELECTRICAL WORLD

NEWS ISSUE

VOLUME 126 NUMBER 22

NOVEMBER 30, 1946

Federal Agencies Act to Keep Electric Utilities in Operation

CPA Issues Order to Curtail Service before Coal Stocks Dwindle too Far—FPC Surrenders Jurisdiction over Utilities Who Make Emergency Interconnections—SFA Freezes Coal

PROSPECTS of a lengthy legal battle growing out of the government's injunction proceedings against John L. Lewis this week dimmed hopes for an early settlement of the soft coal strike.

Anticipating such an eventuality, three federal agencies—Civilian Production Administration, Federal Power Commission and the Solid Fuels Administration—took steps to keep public utilities in operation as the nation's coal stocks dwindled.

CPA issued orders directing the interchange of electric power and requiring limited service curtailments by electric utilities in 18 states east of the Mississippi River, the District of Columbia, Iowa, Minnesota and Missouri. FPC urged all electric systems to make full use of available hydro generating capacity and waived jurisdiction for the duration of the coal crisis over companies which make interconnections of systems solely to conserve fuel. Finally, SFA tightened up its restrictions on distribution of existing coal stocks already "frozen" by the agency.

CPA also reorganized its Office of Emergency Controls, originally formed during last spring's coal strike to handle problems arising from the reduction of fuel supplies of electric and gas utilities. Edward Falck, former Office of War Utilities director, again was named to head this unit.

CPA Order U-14, restricting the use of electricity generated by coal-burning utilities, became effective November 25. Order U-13, issued simultaneously by CPA, calls for reductions in gas utility service whenever a gas producing company's coal or coke stocks fall to or below a three-week supply.

Order U-14 contains three schedules for graduating reductions of electric utility services as coal stocks are reduced. It also provides that an electric utility with less than a 30-day supply on hand may apply to CPA for assistance in obtaining power from other utilities.

CPA Administrator John D. Small sent telegrams to state governors and public utility commissions announcing issuance of U-14 and requesting cooperation in putting the order into effect in coal-burning areas under their jurisdiction.

"Available figures indicate that there is a national average of perhaps a 60-day supply of coal now in the hands of electric utilities, and considerably less among gas utilities," Mr. Small said. "These stocks, however, are not evenly distributed among companies, or even among areas, and many power systems are faced with immediate curtailment of their services."

Schedule 1 of U-14 was ordered into effect in all states east of the Mississippi and north of and including Virginia and Kentucky except Maine. Also exempted were the following areas of New York: portions of Clinton, Franklin and Essex Counties served by the Cities of Plattsburg, Lake Placid and Rouses Point, Paul Smith's Electric Light, Power and Railroad Co., and New York State Electric & Gas Corp.; and the cities of Copenhagen, Gouverneur and Hailesboro.

Interconnections Recommended

Finding that the "critical shortage of coal" threatened "to reduce electricity supplies beyond the levels necessary to provide essential power requirements," FPC issued a statement recommending that all publicly and privately owned electric utilities interconnect and coordinate their operations "to the extent necessary" to assure maximum conservation of coal supplies.

The statement, similar to one issued during last spring's strike, advised that "use of interconnections for the purpose of alleviating the critical coal situation during the present emergency in accordance herewith shall not affect the jurisdictional status of electric utilities under the Federal Power Act." FPC noted that authority for its action was contained in section 202 of the Act, which defines the commission's powers during an emergency in the production of electrical energy.

Interior Secretary Krug, acting as Solid Fuels Administrator, ordered that soft coal held on mine racks, at tidewater ports and in the hands of retail dealers and commercial dock operators

The Pittsburgh Story

The history of the recent Pittsburgh power strike, and its effect upon the city, people, and economy will be told in a special 8-page section in next week's issue of ELECTRICAL WORLD.

Included will be an account of how a small group of faithful employees in the strike-bound plants of the Duquesne Light Co. kept machines running that supplied electricity to the city's essential services throughout the 27-day strike.

ELECTRICAL WORLD—Published weekly by McGraw-Hill Publishing Company, Inc. Publication Office, 99-129 North Broadway, Albany 1, N. Y. RETURN POSTAGE GUARANTEED. Editorial and Executive Offices, 330 West 42nd St., New York 18, N. Y. Allow at least ten days for change of address. All communications about subscriptions should be addressed to J. E. Blackburn, Jr., Director of Circulation. James H. McGraw, Founder and Honorary Chairman; James H. McGraw, Jr., President; Curtis W. McGraw, Senior Vice-President and Treasurer; Joseph A. Gerardi, Secretary; Nelson Bond, Director of Advertising; Eugene Duffield, Editorial Assistant to the President; J. E. Blackburn, Jr., Director of Circulation. Subscription rates: Single copy 35 cents. In the United States, $6 a year, $9 for two years, $12 for three years. Canada, $7 for one year, $11 for two years, $14 for three years. (Canadian money at par.) Pan-American countries, $15 for one year, $25 for two years, $30 for three years. All other countries $20 for one year, $30 for two years, $40 for three years. Please indicate position and company connection on all subscription orders. Entered as second-class matter November 16, 1936, at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Printed in U.S.A. Copyright 1946, by McGraw-Hill Publishing Company, Inc. All Rights Reserved. Cable address McGraw-Hill, New York. Member of A.B.P. Member A.B.C.

be reserved for emergency distribution by SFA. This order prohibited any person from receiving any coal on track or in transit, and extended the coal "freeze" to mines which have not ceased operations.

"No estimate is available yet as to the amount of coal which was taken over by the freeze orders issued recently," Secretary Krug said. "We believe that something less than two days' production will be available for distribution to the limited classes of consumers which have been placed in the critical categories set up in the orders."

Pointing out that while electric power utilities as a whole had an average of two and a half months' coal supply, Secretary Krug said that one out of six coal-burning generating plants would be out of service within two weeks unless their operations were prolonged by drafts from the emergency supplies and that some of the plants would be in critical shape before the end of of a week unless emergency methods were adopted.

•

CPA Recalls Utilities Men to Controls Organization

The Civilian Production Administration has called upon a number of utility industry officials and staff members of other federal agencies to man the reorganized Office of Emergency Controls during the present coal crises. Many of the aides selected are experts who formerly served with the Office of War Utilities.

Edward Falck, former Chief of OWU, is director of OEC, a capacity in which he served during the coal strike last spring. Deputy Director is O. L. Hooper, who has been associated with Falck in private consulting work. W. A. W. Krebs, Jr., legal officer for the office of Naval research, has been named counsel for OEC.

Other electric power consultants requested to serve with the agency include Walker Cisler and Chester Ogden of Detroit Edison Co., Clarence W. Mayott of the Hartford Electric Light Co., Earl Wilde of Commonwealth Edison Co., Chandler W. Jones of the New England Power Association, Carl John of Wisconsin Electric Power Co., Charles Collier and Robert W. Wardle of Georgia Power Co., Constantine Bary of Philadelphia Electric Co., Walter Cosden of Ebasco Services, Inc., and Walton Seymour of Tennessee Valley Authority.

The Federal Power Commission also is scheduled to lend several staff members to OEC.

THIS WEEK'S NEWS BRIEFS

HI-POLE PETE has joined the safety department of Gulf States Utilities Co., Beaumont, Tex. Pete, a man-size dummy, will travel about the system to serve as the "victim" for pole-top resuscitation training. Previously linemen

took turns serving as the "victim" but they complained that frequently they received rope burns and slight bruises.

FOUR MIDGETS employed by a local contractor were called upon recently by the Union Electric Co. of Missouri to remove the accumulation of dust and solid matter that was clogging the ducts of its air-conditioning system at its St. Louis office.

SOMETHING'S ALWAYS HAPPENING to interrupt power service. Recently in eastern Idaho, a power-driven saw disintegrated, and a flying steel fragment flew 300 ft. and cut a 44-kv. transmission line of the Utah Power & Light Co., which serves that area.

IN HONOR of William E. Mitchell, president of Georgia Power Co., the utility will name its new 45,000-kw. steam plant, to be built near Albany, Plant Will Mitchell.

EVEN THE INDIANS are demanding electric service. The Indian Council of the St. Regis Indian Reservation at Hogansburg, N. Y., has granted the Central New York Power Corp. a franchise to provide service for the part of the reservation which lies in the United States.

A CLOUD WAS TRANSFORMED into snow recently by General Electric Co. scientists who flew through a cloud 14,000 ft. above ground and sprayed it with pellets of dry-ice. The snow fell 3,000 ft. before melting. Uses for the new process are being studied.

CPA Order U-14, Limiting Electricity Use

Schedule 1

Effective in area designated by CPA forbids use of coal-generated electricity for any of the following purposes:

1. Refrigeration for air-conditioning except to the extent essential for industrial processes or for health and safety.
2. Outdoor and indoor advertising and promotional lighting.
3. Outdoor display and flood lighting except to the extent necessary for the conduct of outdoor business or services.
4. Outdoor or indoor decorative and ornamental lighting.
5. Show window or show case lighting.
6. Marquee lighting in excess of 60 watts for each marquee.
7. White way street lighting in excess of the amount determined by local public authority to be necessary for public safety.
8. Outdoor or indoor sign lighting except for
   (1) directional or identification signs required for fire and police protection, traffic control, transportation terminals, or hospitals, or directional or identification lighting for any similar essential public services; (2) directional or identification signs using not more than 60 watts per establishment for doctors and for hotels and other public lodging establishments.
9. Outdoor entrance lighting, except the minimum essential for public health and safety and then not more than 60 watts per entrance.
10. Any other form of general outdoor or indoor illumination in or about any commercial, industrial, or other non-residential establishment in excess of 75 percent of illumination normally used.
11. In excess of 75 percent of the passenger elevator or escalator services in any building having more than one passenger elevator or escalator.

Two other schedules calling for more severe restrictions when coal stocks have dropped to 15 and 10 days' supply plus transit time have also been prepared.

Taber Predicts Close Tab on Hydro Projects' Funds

Federal appropriations for hydroelectric projects in conjunction with resource development programs will receive close scrutiny in the Republican-controlled 80th Congress.

That prediction was made by Rep. John Taber, New York Republican, who is scheduled to become chairman of the powerful House Appropriations Committee in the new Congress. In an interview with an ELECTRICAL WORLD representative, Congressman Taber expressed the belief that "entirely too much emphasis" had been placed upon electric power development in the planning of federal public works.

"Though I am not familiar with all the details concerning each of these programs, I feel that the government has spent about ten times as much money for power in connection with flood control and navigation projects as was justified by the real needs in such cases."

Congressman Taber also expressed dissatisfaction with the size of the appropriations sought during recent years by the Rural Electrification Administration. He referred specifically to REA appropriations during the fiscal years of 1945 and 1946, when that agency was granted a total of $550,000,000 for lending purposes.

"I am confident that REA was given more money during the last two fiscal years than it could possibly spend in five years," he said.

Insisting that he strongly approved of the extension of federal aid in bringing electricity to the farmers of the nation, Congressman Taber declared that he had "no confidence in the present administration of the REA program."

He pointed out that REA had advanced large sums to borrowers in Western states and certain other areas, but had made few loans for projects in New England and his own state of New York.

•

Merger Gets P.S.C. Approval

A further step in the unification of the Western Division companies of the Niagara Hudson system was approved recently by the New York Public Service Commission in an order authorizing the Buffalo Niagara Electric Corp. to merge into itself the Hydraulic Race Co., Lockport. This leaves only the Niagara Falls Power Co. and its subsidiaries outside the Buffalo Niagara Electric system, which serves Buffalo and adjacent communities.

Curtailment—Not A Brownout

An Editorial

The Civilian Production Administration's Office for Emergency Controls has moved promptly into the confused electric power supply picture resulting from the bituminous coal walkout.

Its functions and personnel are hardly new to the electric power industry. Their present program for eliminating certain uses of electric energy, aimed at saving fuel and protecting the industry's ability to render service, differs markedly from earlier war-time "brownout" programs.

Actually, the present program is a curtailment, not a brownout. Instead of allowing systems to proceed unrestricted until they have a stipulated number of days' supply of fuel remaining, this program went into effect almost immediately. Instead of confining the first service cutback to clearly non-essential uses, today's program aims at the substantial savings which may be had from an immediate curtailment of elevator and lighting uses in commercial and industrial establishments. In these categories, a 25 percent cut is ordered immediately. If this be observed, the serious nature of the coal emergency can not escape being brought home, promptly and strikingly, to a tremendous portion of the population.

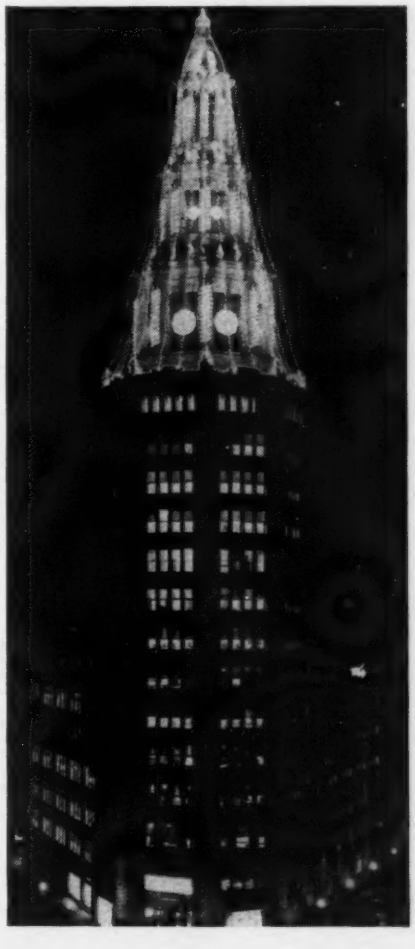
Obviously, the program is a mandatory one in the same sense that the war-time orders of the Office of War Utilities were mandatory. Similar enforcement techniques will be used where necessary to insure its effectiveness.

Although the losses in revenue may be substantial, nevertheless the program seems to be a sound and necessary one under the circumstances. Once again, the industry can be thankful that its problems are in the hands of experienced, operating men who know what to do and how best to do it.

Gas from Unmined Coal Goal of Alabama Power

Seams of coal too thin or lean or deep to warrant mining may be converted to gas for use in boilers of the Alabama Power Co.'s Gorgas plants if experiments soon to be initiated are successful. The Bureau of Mines will collaborate, and the details of cooperation are being framed. It is likely that the Bureau will provide the technicians and instrumentation for gas sampling, temperature determinations, etc. and the power company will provide the working area and the necessary equipment.

As far as is known this is to be the first large-scale experiment of this kind. The Russians vaguely claim success along similar lines, but, as usual, little information has been released.



ANNIVERSARY LIGHTS—Six miles of wiring were used in the special lighting effects on the tower of the Electric Building, headquarters of the Buffalo Niagara Electric Corp., Buffalo, N. Y., which has been illuminated to commemorate the fiftieth anniversary of the first long distance transmission of power—from Niagara Falls to Buffalo—on November 15, 1896

Engineers Get Additional Funds for Civil Programs

Flood Control Allotments Raised to $190,000,000—Work on Power Projects Can Be Carried Forward

New increases in ceilings on the War Department's civil functions programs this week apparently assured the early continuation of all flood control projects now under construction, including those which involve major power installations.

The Budget Bureau announced that the Army Engineers have been authorized to spend an additional $55,000,000 for flood control work during the current fiscal year. This amount, plus other boosts allowed during October, permits flood control expenditures totaling $190,000,000 during the fiscal year—just double the $95,000,000 limitation recommended by the president last August.

At the same time the Budget Bureau authorized the expenditure of an additional $15,000,000 for the Engineers' Rivers and Harbors program. This was the first increase over the original ceiling of $90,000,000 set for rivers and harbors work.

No allocations of funds for specific projects accompanied the new authorizations, and the Engineers will select the works to which the funds will be applied. It is expected that the increase for flood control work will permit continuation of all contracts already let for going projects, awarding of some new contracts for projects on which preliminary work already had been started, resumption of advance planning and preliminary surveys for certain projects, but no construction of new projects.

Clark Hill Project Soon

Operations at the Clark Hill reservoir on Georgia's Savannah River, plans for which now are being completed by the Engineers, are likely to get under way in the near future, Army sources indicated. The Engineers now expect to let contracts for all preliminary work, and perhaps for construction of the dam itself, in this fiscal year.

Other major power projects "frozen" under previous expenditure ceilings and now scheduled for early construction include the Bull Shoals dam in Arkansas, Garrison dam in North Dakota, and Buggs Island reservoir in Virginia.

War Department sources predict that the additional Rivers and Harbors funds will permit only the continuation of maintenance on existing projects, such as river silt control work and dredging. There is little prospect that construction on power projects like McNary Dam in Oregon and the Foster Creek project in Washington will be carried on under the present limitation.

MANUFACTURER AIDS VETERANS HOUSING PROJECT—Tobe Deutschmann, sponsor of Honor Village, Canton, Mass., presides at dedication services when lucky vets were sold lots in the Village for $1. In the center is Charles S. Tolias, disabled Canton veteran who drew the names; and on the right, is Rene A. Gagnon, Manchester, N. H., survivor of the famous Iwo Jima flag-raising, who raised the flag at Honor Village. Mr. Deutschmann donated the land and aided the veterans in organizing a community project which will give 18 of them homes at $6.500 each. William Davies, prominent Boston architect, laid out the village.

•

Brazos River Co-op Plans 10,000-Kva. Power Plant

Brazos River Transmission Electric Cooperative, Fort Worth, Tex., has announced that it will build a 10,000-kva. generating station at a cost of $2,000,000 and will add at least 600 of 66-kv. transmission lines to the 200 miles now under construction.

The new steam plant on the Leon River between Temple and Belton will supply power to "firm up" that secured from Morris Sheppard Dam, of the Brazos River Conservation and Reclamation District, northwest of Mineral Wells. Natural gas will be used for fuel and water will be drawn from the City of Temple Lake.

Already in use are 240 miles of lines from the Sheppard dam to Garland, and from Peaster to McGregor. Eventually the system will extend from Possum Kingdom to Seymour and Muenster, and as far south as Navasota. When the system is completed in about a year and a half, it will serve all the 18 co-ops in the Brazos watershed.

Northwest Steam Stations to Bolster Power Supply

The Tacoma, Wash., City Light steam plant was placed in operation November 1, for the first time since 1943, to help serve the Washington Water Power Co. system of Spokane at the request of the Northwest Power Pool.

"The Tacoma steam plant was started to make up for the loss of power which, up to midnight October 31, we had been buying from Bonneville," Kinsey M. Robinson, president of the Washington Water Power Co. said.

The Spokane company had been buying a substantial block of power from Bonneville since August 9.

"When the Bonneville supply to us was reduced," Robinson said, "it resulted in putting our reserves at an amount too low for insuring service on a basis considered good business practice."

The 25,000-kw. Tacoma steam plant had been idle since 1943, when a snow storm broke lines to the city's Cushman plant.

The Seattle City Light steam plant at Seattle, Wash., idle for the last eight years except for one month in 1942, also started operations on November 14, adding another 30,000 kw. to the Northwest Power Pool.

'Death Sentence' Clause Held Constitutional by High Court

Supreme Court Justices in 6-to-0 Decision Approve SEC Order Directing Dissolution of American Power & Light Co. and Electric Power & Light Corp. Holding Companies

THE Supreme Court this week unequivocally upheld the constitutionality of Section 11 (b) (2)—the "death sentence" clause—of the Public Utility Holding Company Act of 1935.

The High Court's 6-0 verdict also affirmed the first Circuit Court of Appeals in approving a Securities and Exchange Commission order directing the dissolution of American Power & Light Co. and Electric Power & Light Corp., subholding companies in the Electric Bond & Share Co. system.

The court's opinion, by Mr. Justice Murphy, was prefaced by the declaration that "we reject the claim that Section 11 (b) (2), viewed from the standpoint of the commerce clause, is unconstitutional."

Bond & Share System Widespread

The opinion pointed out that the Bond & Share system, including American and Electric, embraced utility properties in 32 states and 12 foreign countries and that the system functioned through continuous use of the mails and "the instrumentalities of interstate commerce." Therefore, the court held, Congress, under its constitutional authority to regulate interstate commerce, has "undoubted power" to impose relevant conditions and requirement upon utility systems. Further, Congress "is completely uninhibited" in selecting the means for obtaining "desired conditions in the channels of interstate commerce."

The Holding Company Act, the court found, resulted from an effort by the Congress to eliminate specific activities by utility systems in interstate commerce, and among these activities were "various abuses traceable . . . to the use of the pyramiding device," as set forth in Section 1 (b) of the Act.

"To deny that Congress has power to eliminate evils connected with pyramided holding company systems . . . is to deny that Congress can effectively deal with problems concerning the welfare of the national economy. We cannot deny that power," the court said.

The court dismissed the claim that Section 11 (b) (2) constituted an unconstitutional delegation of legislative power to SEC because of an alleged absence of clearly defined standards for enforcement. Noting that this section forbids SEC action to dissolve any company in a holding company system which does not "unduly complicate the structure" or "unfairly or inequitably distribute voting power among security holders," the opinion said that these were sufficiently meaningful standards to "those familiar with corporate realities."

The court also rejected the contention that the "death sentence" clause was void without provision for notice and opportunity for hearing. SEC notified American and Electric security holders of the impending dissolution proceedings, but even had it neglected to do so, "such failure would at most justify an objection to the administrative determination rather than to the statute itself," the court held.

Company protests that dissolution was an unnecessary, drastic means of correcting alleged pyramiding abuses failed to stay the court since SEC "chose dissolution because it felt that such action is calculated to correct the situation" more speedily and effectively than would the alternative reorganization plans filed by the companies.

Counsel for the companies contended that these alternative plans had been filed in compliance with Section 11 (e) of the Act and that SEC had deferred action upon them for more than a year until it instituted the dissolution proceedings.

The commission denied the motions and refused to hold hearings on the plans in advance of the dissolution order. The court "failed to perceive any error in this procedure," noting that SEC thoroughly examined the proposed plans and found they held no "real promise" to effectuate the standards of Section 11 (b) (2).

However, in a separate concurring opinion, Mr. Justice Rutledge objected to this procedure by SEC. He pointed out that Section 11 (e) expressly provides for the submission of plans to effectuate the objectives of Section 11 (b) (2). He emphasized the Section 11 (e) provision permitting SEC approval of plans which protected investors and the public interest "after notice and opportunity for hearing."

He agreed with the court's verdict, however, because the companies stood by "during the long period of the Section 11 (b) proceedings prior to the time of submitting their plans without taking earlier action . . . to secure . . . hearings" and thus "waived their rights to such hearings."

Justices Reed, Douglas and Jackson, who previously had disqualified themselves in these cases, took no part in the consideration of decisions.

POWER PIONEER—Jacob Fredrick Schoellkopf, founder of the Schoellkopf electric interests, is featured in one of the show windows of the present Buffalo Niagara Electric Corp., which is celebrating the fiftieth anniversary of the world's first long distance transmission of power—from Niagara Falls to Buffalo—on November 15, 1896. Three other pioneers were similarly honored

New Jersey Association Discusses Utilities Topics

General Electric Co. Representative Explains Slowness of Deliveries — Atomic Power Called Expensive

Why deliveries of electrical goods are slow, what the trend of utility taxes is, how atomic energy will enter the power generation scene, what the present status and future developments in rural electrification are, and how utilities can earn public good will, were the subjects presented to the 31st annual convention of the New Jersey Utilities Association at Absecon, N. J., November 22, 23.

On slowness of deliveries, J. E. N. Hume, General Electric Co., said that shortages were the answer and that they would be corrected only by the nation getting back to work. As almost everyone knows, steel and copper are scarce, but few think of the confused situation in cloth, tape and yarn as contributing to the troubles of electrical goods production.

Little of comfort for utilities appears in the taxation picture, said Harold Schaaf, Ebasco Services. State and local governments are turning more and more to electric service revenues in their search for sources of income, and while the utilities may be only tax collectors, the job is not one they enjoy.

E. E. I. President Grover C. Neff, after telling how far extension of rural lines already had progressed and that the building of lines would be virtually finished by the end of 1948, said that the big thing farm electrification has yet to do is to break the bottleneck of farm chores. It's the chores, taking his time and energy, that prevent the farmer from producing efficiently.

An eminently sane perspective on atomic energy as a power producer was revealed by Philip Sporn, American Gas & Electric Service Corp., who related the new to existing methods of power generation in the economic terms which, in the final analysis, will determine its acceptance into ordinary practice. To be used economically, atomic energy will have to be delivered to the user at less cost than is possible with energy from other sources, and that is yet far from being demonstrated.

In public relations, the biggest and most difficult task of the utilities is to find ways and means to commend themselves to the good opinion of the public. That was the impression made by Leonard Dreyfuss, United Advertising Corp., in his address, "How Utilities Can Gain Public Good Will." It is a big task because it must be carried on continuously and comprehensively; it is difficult because every utility executive and lawyer is sure that he can do the job better than the man who is hired for it.

New officers elected for the coming year were: president, H. H. Melvin, Millville Utilities; vice-president, J. O. Herr, Monmouth Consolidated Water Co.; secretary, H. B. Allen, New Jersey Power & Light Co. Elected to the executive committee were E. H. Werner, Jersey Central Power & Light Co.; N. M. Argabrite, Atlantic City Electric Co.; C. J. Alfke, Hackensack Water Co., and H. C. Thuerk, New Jersey Power & Light Co.

Retained in office were R. E. Swift, Atlantic City Electric Co., treasurer, and Harry Bacharach, executive director.

EMPLOYEE DINNER—Idaho Power Co. entertains present and past employees and their wives at a dinner at Caldwell, one of six given in southern Idaho

•

Herbert W. Young Dies

Herbert W. Young, founder and president of the Delta-Star Electric Co., Chicago, died in that city on November 25 at the age of 70. A pioneer in outdoor installations and a leader in the movement for standardized equipment, Mr. Young organized the Delta-Star Electric Co. in 1908 and had served as its president since that time.

•

Hearing Postponed

The Federal Power Commission postponed from November 25 to December 11 the oral argument which will reopen its four-year-old proceedings to establish FPC jurisdiction over operations of Connecticut Light. (ELECTRICAL WORLD, Nov. 9, Page 112).

MEETINGS

American Society of Mechanical Engineers—Annual meeting, Hotel Pennsylvania, New York, December 2-6.

National Exposition of Power and Mechanical Engineering—Grand Central Palace, New York, N. Y., December 2-7.

Foreign Electricity Output Also Hit by Coal Shortages

Coal shortages in three foreign countries have led to severe restrictions on the use of electricity.

In Japan industries have been ordered to cut their consumption 50 percent.

In France, a 20 percent reduction is being sought. A plan has been set up whereby all power will be shut off between 7 a. m. and 7:30 p. m., two days a week. This is to be done alternately on different days in different sections of Paris and the rest of the country. Industries will be allowed to work at night to make up for lost time. Illuminated signs are forbidden. All customers must reduce consumption at least 20 percent, or they will be deprived of service.

In the American zone in Berlin, all buildings have been cut off from the continuous use of electricity. Nightly blackouts are in force in all sections of the city. Difficulties in Berlin are due to the failure of the British to supply their allotment of coal and to the Russians, who have reduced the delivery of electricity from the power plants in the Russian zone of Germany. Some of the trouble is due also to the poor condition of the power plants.

•

Union and Utility Agree

Virginia Electric & Power Co. and the Utility Workers Union, independent, have signed a contract covering 195 scientific, technical, and professional employees. A flat increase of $20 a month was granted retroactive to June 1, and employees with 15 years or more of service are to receive 3 weeks' vacation with pay. The utility has reserved the right to make merit increases but promises to pay not less than the salaries paid by comparable utilities in the area for similar work.

NEWS ABOUT PEOPLE

M. E. Leeds and N. R. Gibson to Be Honored by A.S.M.E.

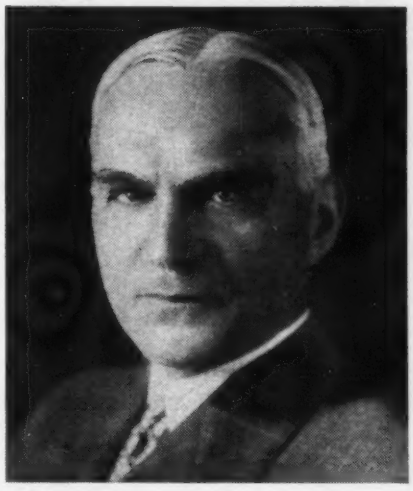
Morris E. Leeds, chairman of the board of Leeds & Northrup Co., Philadelphia, will receive the highest honor of the American Society of Mechanical Engineers, the A.S.M.E. Medal, during its annual meeting in New York December 2 to 6. Norman R. Gibson, vice-president of the Buffalo Niagara Electric Corp., Buffalo, N. Y., will receive the Holley Medal given for "some great and unique act of genius of an engineering nature."

The A.S.M.E. medal, which is awarded annually for distinguished service in engineering and science, goes to Mr. Leeds for "outstanding

M. E. Leeds

achievements in the invention and development of electrical and temperature measuring instruments, and in the field of industrial relations." Mr. Leeds pioneered in the development of instruments based on the null method of electrical measurement, and his patent on the Leeds mechanical-relay electrical recorder won for him the Edward Longstreth Medal of merit of the Franklin Institute in 1920. He was given the Forbes Award in 1931 for the best employer-employee plan actually in operation.

The Holley Medal goes to Mr. Gibson specifically "for his achievements and inventions which have advanced the science of hydromechanics, including an original method of water measurement which made possible more



N. R. Gibson

accurate testing of large hydroelectric generating units." He was awarded the Elliott Cresson gold medal in 1930 by the Franklin Institute for his invention of the Gibson method and apparatus for measuring flow of liquids in closed conduits. Mr. Gibson obtained his practical experience on many important construction and power projects in Canada and the United States. He has been with Buffalo Niagara Electric and its predecessor since 1929.

•

Utilities Commissioners Elect Swanson President

(See Front Cover)

Duane T. Swanson, State Railway Commissioner of Nebraska, was elected president of the National Association of Railroad and Utilities Commissioners at the annual convention held recently in Los Angeles.

A native of Hamburg, Iowa, and a graduate of Gem City College, Quincy, Ill., Mr. Swanson received his LL.B. degree from the University of Omaha Law School in 1932. From 1933-1939 he engaged in the general practice of law. It was in 1938 that he was elected State Railway Commissioner, and after serving a six-year term he was elected for a second six-year term in 1944.

Mr. Swanson has been active in the National Association of Railroad and Utilities Commissioners, having been elected second vice-president in 1944 and first vice-president in 1945.

F. H. Streit Appointed Chief Design Engineer for Utility

Announcement has been made by the Columbus and Southern Ohio Electric Co., Columbus, of the appointment of Frank H. Streit to the position of chief design engineer and of Fred Campbell as assistant design engineer.

Mr. Streit received his early engineering experience with the Los Angeles Gas & Electric Corp., and after this company sold to the City of Los Angeles he continued with the

F. H. Streit

properties as underground engineer. He then went to Santa Cruz, where as electric superintendent he had charge of electric operations for the Coast Counties Gas & Electric Co. From 1939 to 1943 he served as senior design engineer for the Hawaiian Electric Co., Ltd., at Honolulu, T. H. During the three following years he was connected with the staff of Columbia University in the Division of War Research as an administrative engineer in the Naval Ordnance development. He then spent a few months with the U. S. Engineering Department at Oak Ridge, Tenn., as assistant chief of operations and executive officer of the electromagnetic uranium isotope separation plant.

Following graduation from Washington University, St. Louis, Mo., Mr. Campbell became identified with the General Electric Co. at Schenectady, taking the test course, and in the switchgear department. He was then

transferred to the Chicago offices of G.E. as switchgear engineer. In 1926 he joined United Light & Power Co., the position he retained until his new assignment.

•

J. J. Nance Made Hotpoint Executive Vice-President

Announcement has been made of the election of James J. Nance as executive vice-president and a director of the Edison General Electric Appliance Co. Mr. Nance has had broad experience with several manufacturers of major appliances. Immediately prior to his present appointment, he had been serving on the staff of Charles E. Wilson, president of the General Electric Co.

For many years Mr. Nance was associated with the Frigidaire Division of General Motors and he has also successfully held marketing and administrative positions with Zenith Radio and Easy Washing Machine Corp.

J. J. NANCE

•

▶ HARRY A. REED has been elected vice-president of Day & Zimmermann, Inc., Philadelphia, and will coordinate new business activities. THOMAS W. HOPPER will succeed Mr. Reed as engineering manager and will have charge of design and engineering for the construction department.

▶ H. E. Cox, vice-president of Birmingham Electric Co., has been named community chairman of the Committee for Economic Development. In the fall of 1944, Mr. Cox served as general chairman of CED's post-war sales training program and took a prominent part in organizing and executing the program of the Jefferson County Committee for Economic Development.

E. S. Webster Retires As Stone & Webster Chairman

Retirement of Edwin S. Webster as chairman of the board of Stone & Webster, Inc., has been announced. Mr. Webster, a co-founder of the organization, will continue his directorships in the company and its subsidiaries and will maintain his office in the Stone & Webster Building in Boston where he will be available for consultation. He is succeeded as chairman by William T. Crawford, who for the past ten years has served as executive vice-president. Whitney Stone, son of the late Charles A. Stone, will continue as president.

Together with the late Charles A. Stone, Mr. Webster formed in 1889 the partnership which later was to be known as Stone & Webster, Inc. In the beginning, the firm concentrated on electrical engineering, especially as related to public utilities, later branching out into other engineering fields. In addition, the corporation now has an investment banking subsidiary and one which provides supervisory services to industrial and public utility companies.

Mr. Webster served as president until the death of Mr. Stone in 1941, when he became chairman. Mr. Crawford, who succeeds Mr. Webster, joined the organization in 1908, was elected secretary in 1929, a vice-president in 1933, and in 1936 he was made executive vice-president.

OBITUARY

P. Verness Fraser

P. Verness Fraser, vice-president in charge of production for the Ohio Public Service Co. with offices in Cleveland, died at Phoenix, Ariz., on November 9 while on a leave of absence. He was 50 years old.

Mr. Fraser had been connected with Ohio Public Service for the past 22 years, starting as general production engineer and later assuming a vice-presidency. Previous to his Ohio connection, he had been identified with the Denver Gas & Electric Co., now the Public Service Co. of Colorado, Lincoln Gas & Electric Co. at Lincoln, Neb., and the Virginia Electric & Power Co.

Mr. Fraser had acted as secretary of the general education committee of Ohio Public Service Co. since the inception of that program.

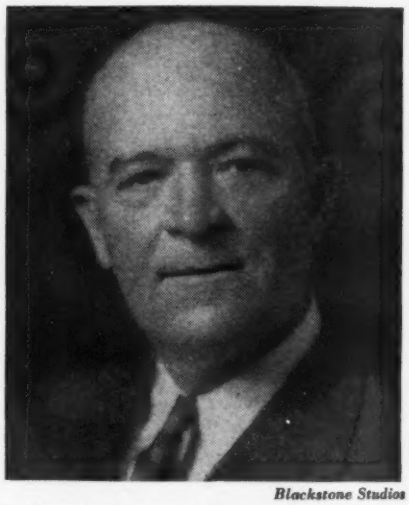
•

▶ LEON TOBIN, general superintendent of the Camden (S. C.) light and water department, died on October 11 as the result of a heart attack. Mr. Tobin had been in charge of the municipal utilities for 16 years. Prior to his connection in Camden, he was associated with the Edisto Power Co. and later with the South Carolina Power Co.

•

Charles E. Stephens

Charles E. Stephens, retired vice-president of the Westinghouse Electric Corp., whose death was announced in the November 23 issue of ELECTRICAL WORLD, page 88, became identified with the Westinghouse organization in 1900. After several years of work as an apprentice and engineering student, Mr. Stephens entered the engineering department, subsequently becoming manager of the arc lighting section of the engineering department and later manager of the illuminating section of the sales department.



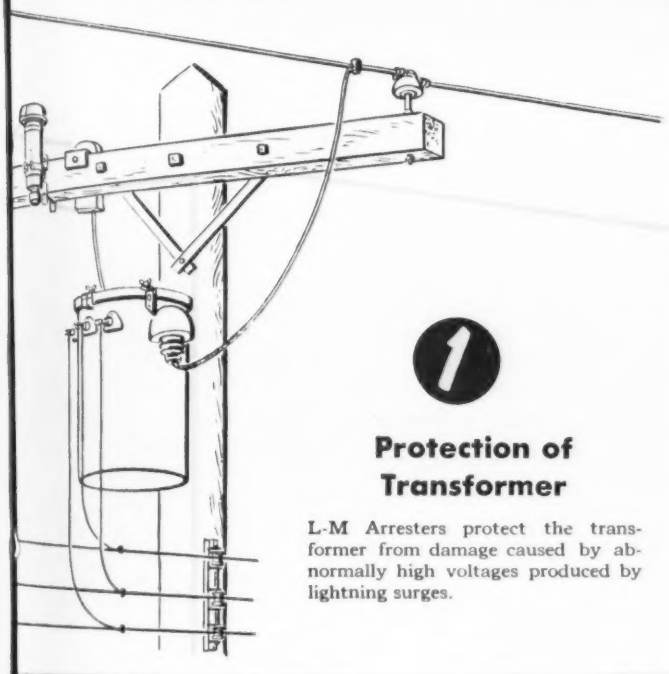
Blackstone Studios

In 1917 he was transferred to the New York office as manager of the supply department, later was made manager of the central station division of the New York office and in 1925 was appointed manager of the New York district. It was in 1930 that he was elected commercial vice-president in charge of the districts in the Atlantic division and two years later he was elected vice-president of the company.

An outstanding figure in the electrical industry, Mr. Stephens served for four years as a director of the American Institute of Electrical Engineers and represented that society on the executive committee of the American Engineering Council. He was a member of the U. S. National Committee of the World Power Conference. He was a past-president of the Electrical Association of New York, was a member of the New York Electrical Board of Trade and had been active in many other industry associations.

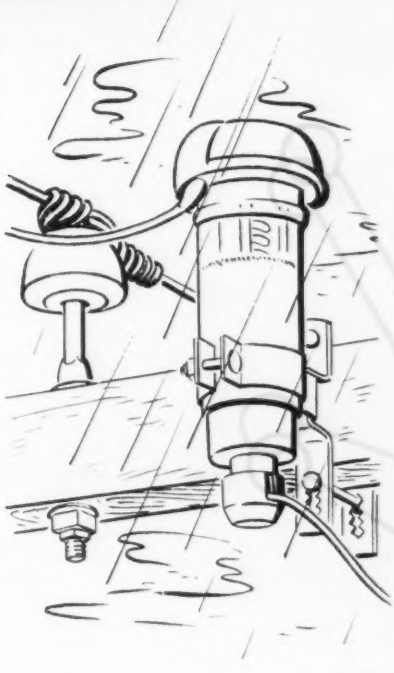
4 Kinds of Protection are Provided by L-M Heavy Duty Lightning Arresters

No Other Arrester Gives Such Complete Coverage of All Four Factors . . .



1 Protection of Transformer

L-M Arresters protect the transformer from damage caused by abnormally high voltages produced by lightning surges.



2 Protection From Moisture

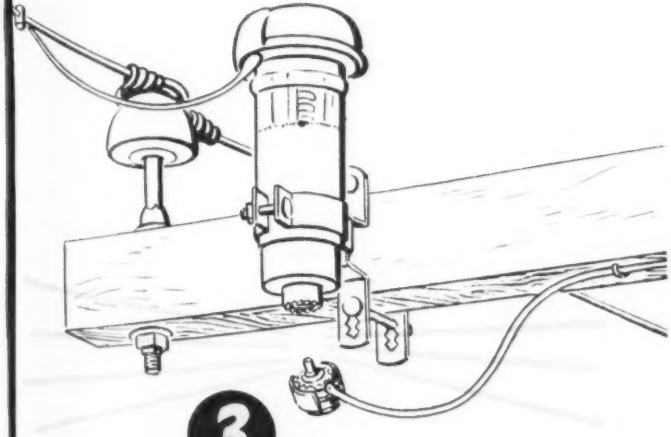
The design protects the arrester itself from damage by moisture.

Synthetic rubber gasket compressed between metal cap and glass body.

Metal cap drawn over shoulder of body is covered by weather-resistant sealing compound.

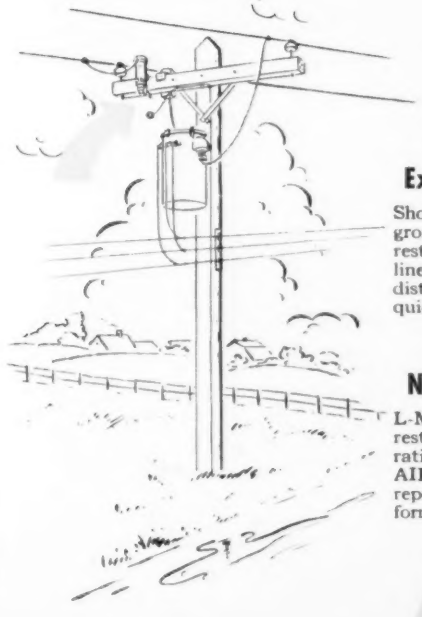
Synthetic rubber sealing gaskets at bottom of housing and on Isolator.

Concave bottom completely filled with weather-resistant sealing compound.



3 Protection Against Locking Out Feeders

In rare cases of shorting in arrester, heat of follow current causes instant separation of Isolator, cutting out arrester and protecting system from locking out of feeders. (The Isolator is an exclusive L-M feature under Patent No. 2,315,300.) The Isolator is safe—can operate only when it should. Rugged—the ground lead withstands a pull of hundreds of pounds.



4 Protection Against Excessive Service Time

Should such failure (3) occur, ground lead hangs free of arrester, making it simple for a lineman to spot the break from a distance. Any trouble is spotted quickly.

6 Sizes—Meet New NEMA Standards

L-M Heavy Duty Lightning Arresters are made in six sizes with ratings from 1 to 15 Kv. All meet AIEE and NEMA standards. In repeated tests they maintain uniform performance characteristics.

For more complete information on these and other superior features of L-M Lightning Arresters, write for Bulletin 40151. Line Material Company, Milwaukee 1, Wisconsin.

LINE MATERIAL
LIGHTNING ARRESTERS

L-M DISTRIBUTION EQUIPMENT INCLUDES: Distribution Transformers • Fuse Cutouts and Fuse Links • Lightning Arresters • Oil Switches • Pole Line Hardware • Line Construction Specialties • Underground Equipment • Fibre Conduit • Street and Airport Lighting Equipment • Wired Radio Control Equipment • Capacitors

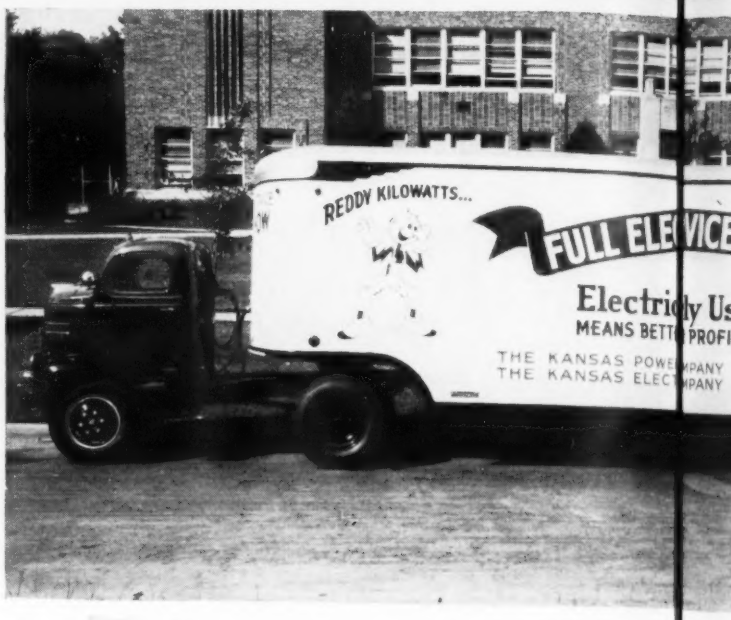
Traveling Electrical Exposition

RESIDENTS of the 40 counties served by the Kansas Power & Light Co., Topeka, and its affiliate, Kansas Electric Power Co., Lawrence, are to be given an opportunity to see a hit show, "Reddy Kilowatt's Full Electric Service Show."

Following the premiere, November 12 to 15, at Lawrence, the appliances and props used were packed in a specially constructed van which will carry them from place to place during the coming year's tour.

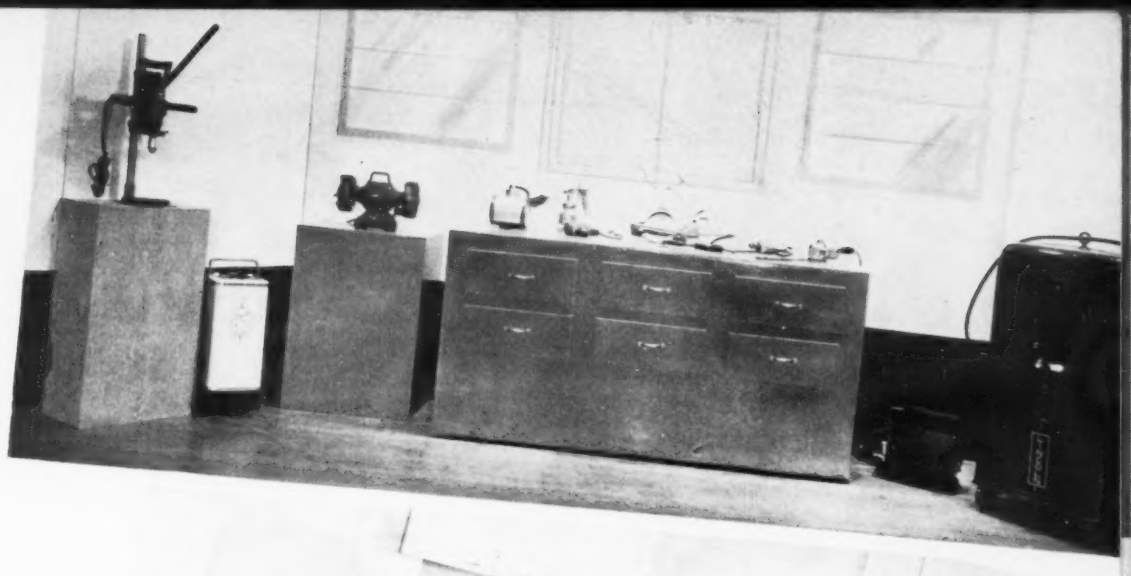
When set up, the show has a background 186 ft. long. The show slogan, "Electricity, properly used, means better living and larger profits for you," appears across the top of the center exhibits showing an "all-electric kitchen and electric utility room." Other exhibits show the use of electric appliances and equipment both at home and on the farm.

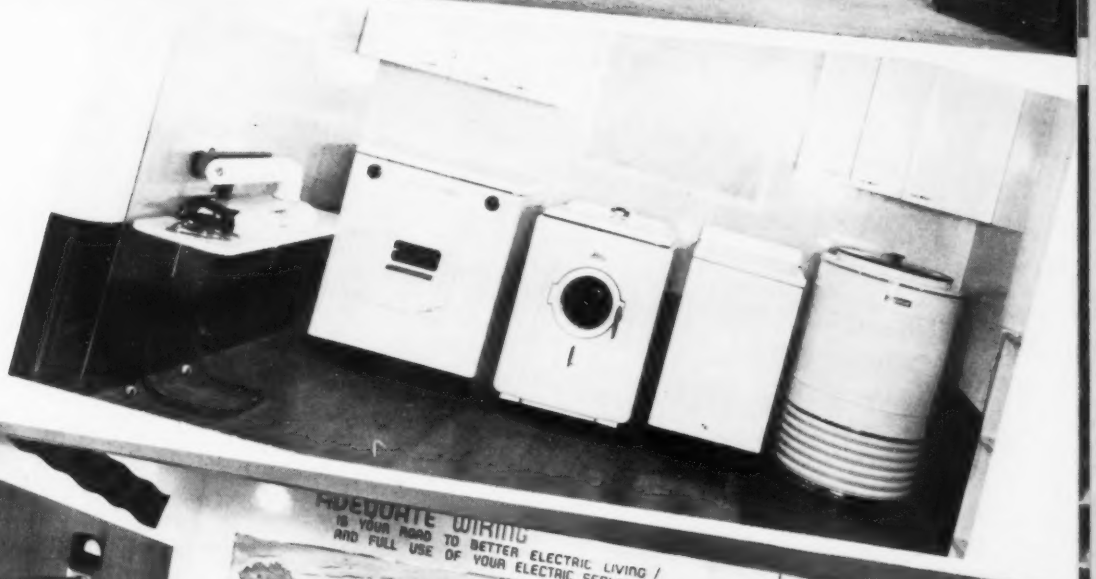
The four-fold objective of the show is to promote greater use of electricity in homes and on farms by showing how electric appliances and equipment provide better living and opportunities for more profits, to create a greater demand for electrical products and offset competition of other fuels, to promote wider use of electricity and encourage rural expansion of lines, and to foster closer working relationships with cooperatives by inviting them to use the facilities of the exposition when it is in their areas.



SERVICE SHOW
COMMUNITY SOON
FOR IT
LIVING AND LARGER PROFITS FOR YOU

VICE SHOW
dly Used.
PROFITS FOR YOU





ADEQUATE WIRING
IS YOUR ROAD TO BETTER ELECTRIC LIVING
AND FULL USE OF YOUR ELECTRIC SERVICE!

PROCESSING & STORING
FOR FARM PROFITS
Automatic FEED GRINDING
LABOR · FEED · MONEY
YOU A LIFT
FRESHLY
GROUND
FEED IS
MORE PALATABLE
MORE NOURISHING
FREE FROM SPOILAGE
ELECTRIC
GRINDING
COST PER 1000 Lbs
MILO 3.0'
CORN 4.8'
WHEAT 6.8'
OATS 12.0'

HIGH VOLTAGE

--HIGH INTERRUPTING CAPACITY

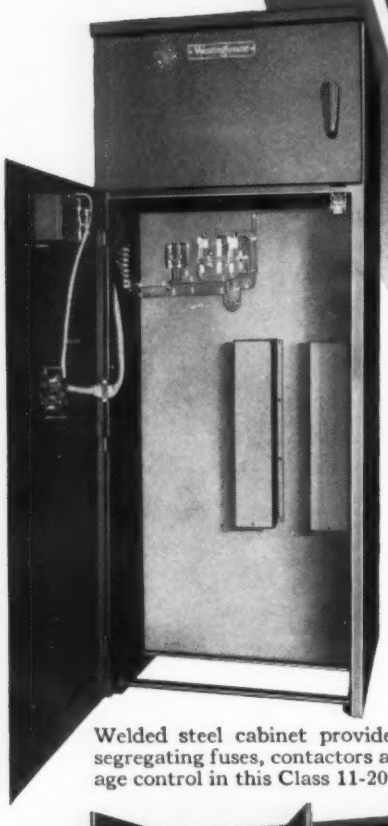
Motor Starters for every type of drive

Westinghouse combination motor starters have many advantages wherever high interrupting capacity is required. They're dependable and safe. Each starter is a complete unit, self-protecting and self-contained. All inside wiring is done at the factory to simplify installation. Just make connections to the line and motor.

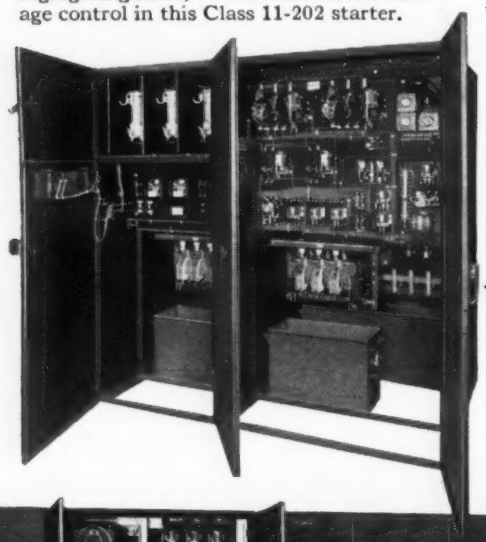
The oil-immersed contactor is fast. "De-ion" arc quenchers and magnetic blow-out coils quickly snuff arc and minimize contact burning. A heavy inset of nonwelding, arc-resisting alloy further prolongs contact life.

Power type current-limiting fuses limit high fault currents in 1/8 cycle and completely interrupt in 1/2 cycle. They confine recovery voltage to 160% of the peak circuit voltage to prevent damage to motor or other equipment associated with the circuit. Replacement is simple. A standard hookstick is the only tool required.

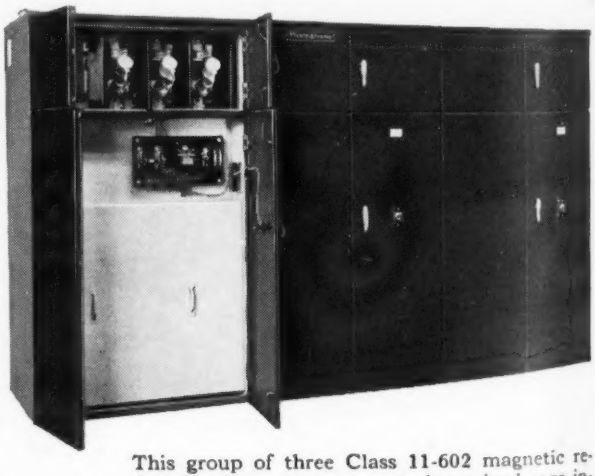
Write for Booklet B-3467 for the whole story. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-60629



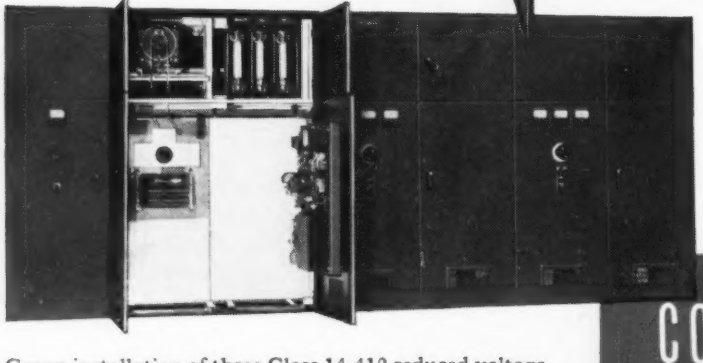
Welded steel cabinet provides safety by segregating fuses, contactors and low voltage control in this Class 11-202 starter.



Open view of Class 14-302 magnetic full-voltage reversing starter for two-speed single-winding synchronous motor.



This group of three Class 11-602 magnetic reduced voltage starters controls squirrel-cage induction motors.



Group installation of three Class 14-412 reduced voltage reactor-type starters for synchronous motors. Left-hand unit is for the incoming line.

Westinghouse

PLANTS IN 25 CITIES ... OFFICES EVERYWHERE

WESTINGHOUSE

COMBINATION STARTERS

SEC RULINGS

The Securities and Exchange Commission recently issued a series of orders affecting electric utility companies.

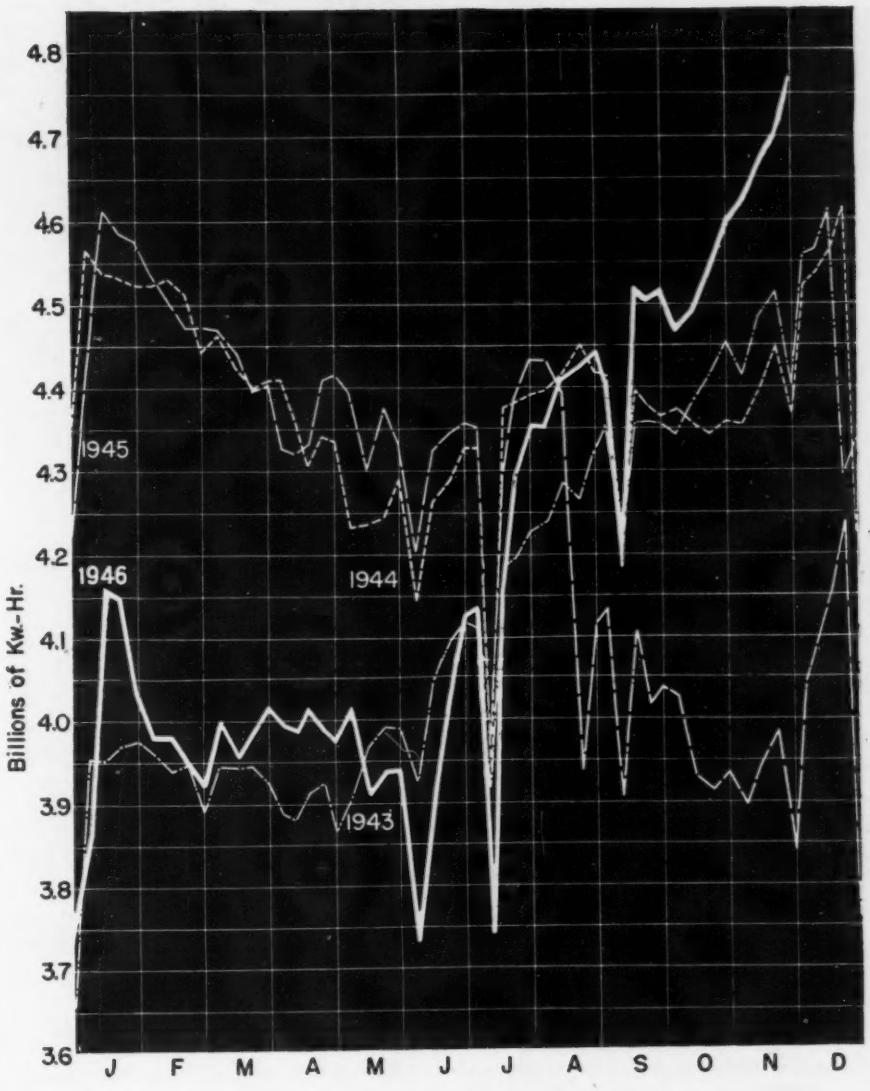
CONSUMERS POWER CO. won commission approval of the amendment to its financing plans, providing for the sale at competitive bidding of 500,000 common shares. It is provided, however, that if the price accepted exceeds $40 a share, the aggregate number of shares to be purchased by the successful bidder will be reduced to the number which will produce net cash proceeds not exceeding $20,000,000. Proceeds are to be used for construction. (Release No. 6982).

NORTHERN STATES POWER CO. (Del.) dissolution was delayed recently when the commission vacated its order of October 31, 1945, approving the dissolution plan. In its recent decision the commission pointed out that the plan approved last year cannot now be considered fair and equitable to the common stockholders of the Delaware company, in view of changed circumstances. The commission's approval of the plan last year was based upon its conclusion that reasonably foreseeable consolidated net income applicable to the common stock of Northern States Power Co. of Minnesota, the Delaware company's subsidiary, was $6,500,000. This projection of earnings assumed that there would be some reduction in post-war taxes. Refinancing senior securities of the Minnesota company and its subsidiaries also was anticipated. Against these projections, the actual consolidated gross income for 1946 is now estimated at $11,985,000, which is expected to yield a net return applicable to the Minnesota company's common stock of $6,931,000. These estimates do not give effect to the recent refinancing of the company's preferred stock at a lower interest rate. The Delaware company filed recently a second amended plan of dissolution, increasing the participation to be accorded its Class A and Class B common stocks from 9.56 to 16.72 percent and reducing the participation of its preferred stock commensurately. The commission stated that an early hearing will be held on the company's new plan. The commission declined to pass upon the merits of several alternative plans suggested by certain groups of security holders, merely noting that they were either inadequate or were opposed by the Delaware company. (Release No. 6987).

•

Utility Promoting Industries

As a part of its program to develop and attract industries to the area it serves, the Empire District Electric Co., Joplin, Mo., has published a 20-page booklet, "Looking Through Clear Glasses," for use by the separate communities. The company will also send the booklet to likely prospects throughout the country. The topics covered include transportation, utilities, fuels, climate, labor, resources, recreation, and living conditions.



Electric Output Curve Continues to Climb

Undaunted by the bituminous coal strike, the electric output curve continued on the upward trend during the week ended November 23, 1946, according to figures released by the Edison Electric Institute.

The amount of electrical energy distributed by the light and power industry during the week amounted to 4,764,718,000 kw.-hr., a record high for the fourth successive week. The previous high was 4,699,935,000 kw.-hr. recorded for the preceding week ended November 16. During the week ended November 24, 1945, the amount of electrical energy distributed totaled 3,841,350,000 kw.-hr., this year's figure representing an increase of 24.0 percent. The over-all percent change for the country as a whole for the week ended November 16 was an increase of only 18.0 percent.

Substantial gains reported by all of the seven geographic regions of the country contributed to this substantial increase of 24.0 percent.

Weekly Output, Millions Kw.-Hr.

1946		1945		1944	
Nov. 23	4,765	Nov. 24	3,841	Nov. 25	4,369
Nov. 16	4,700	Nov. 17	3,985	Nov. 18	4,450
Nov. 9	4,682	Nov. 10	3,948	Nov. 11	4,397
Nov. 2	4,628	Nov. 3	3,899	Nov. 4	4,355
Oct. 26	4,602	Oct. 27	3,937	Oct. 28	4,358
Oct. 19	4,540	Oct. 20	3,915	Oct. 21	4,345
Oct. 12	4,495	Oct. 13	3,934	Oct. 14	4,355
Oct. 5	4,478	Oct. 6	4,028	Oct. 7	4,375
Sept. 28	4,518	Sept. 29	4,039	Sept. 30	4,366
Sept. 21	4,507	Sept. 22	4,019	Sept. 23	4,377
Sept. 14	4,521	Sept. 15	4,106	Sept. 16	4,395
Sept. 7	4,184	Sept. 8	3,909	Sept. 9	4,228

Percent Change from Previous Year

	Nov. 23	Nov. 16	Nov. 9
New England	+21.9	+10.6	+11.7
Mid-Atlantic	+15.6	+ 9.0	+ 9.7
Central Industrial	+21.2	+16.0	+16.7
West Central	+16.3	+11.3	+14.5
Southern States	+32.1	+28.3	+28.2
Rocky Mountain	+18.8	+13.9	+15.3
Pacific Coast	+35.7	+26.5	+26.0
Total United States.	+24.0	+18.0	+18.6

MANUFACTURERS & MARKETS

Second International Lighting Exposition Preparations Began This Week in Chicago

Operating Committee Begins Mailing of Exhibitors' Data Bulletin and Space Applications—Forms to Be Returned by January 15 for Space Allocations—Show Dates, Nov. 3 to 7

With the mailing of the Exhibitors' Data Bulletin and Exhibit Space Applications, organized activity in behalf of the Second International Lighting Exposition and Conference really gets under way, according to an announcement by E. C. Huerkamp, chairman of the exposition operating committee. The Exposition, which is sponsored by the Industrial and Commercial Lighting Equipment Section of the National Electrical Manufacturers Association, is to be held in Chicago on November 3-7, 1947.

"The great interest manifested in the first exposition last April, when 10,000 electrical contractors, wholesalers, architects, utility men, and others crowded into the exposition exhibits," Chairman Huerkamp stated, "has attracted the attention of all those who serve in the lighting industry. From the interest already shown, it is certain that there will be an even greater representation of exhibitors and products at the second show. These exhibitors will show all kinds of industrial and commercial lighting equipment, airport lighting, floodlighting, street lighting, wiring devices, paints, maintenance equipment, and other aids to illumination.

"For these reasons and the fact that the deadline for space applications to qualify for the drawing is January 15, 1947, those who plan to exhibit are urged to mail their applications as early as possible," Mr. Huerkamp continued.

•

Utility Plant Expenditures

Electric and gas utilities will spend $1,000,000,000 for new plant and equipment during 1946, the Securities and Exchange Commission forecast recently. The total broken down by periods was —first quarter $180,000,000; second, $230,000,000; third, $280,000,000; and fourth, $310,000,000.

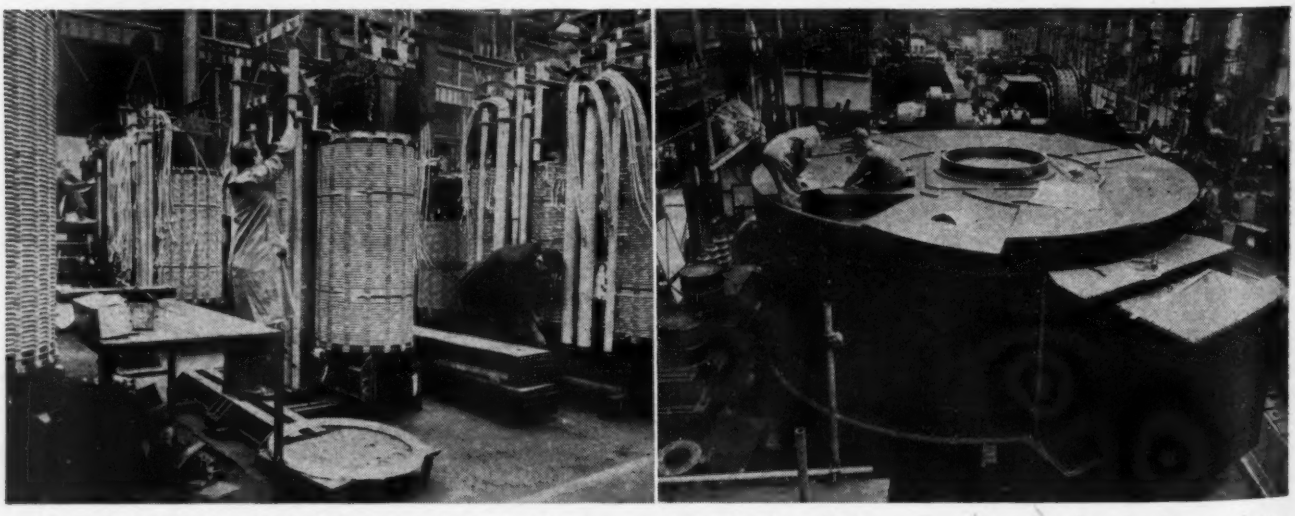
•

American Coach Sets Up Operations in California

American Coach & Body Co., Cleveland, Ohio, has established operations in California with a plant at 432 Fifth St.. Oakland. The executive personnel include Fred C. Hall, vice-president and general manager; Andro J. Macho, assistant secretary and comptroller, and Henry Kipp, chief engineer.

The California plant will supplement the Cleveland production of standard utilities equipment, bodies, and aerial ladders for motor vehicles, covering coastal and mountain states.

Mr. Hall has had many years' experience as a civil engineer and a utility engineer, and during the war operated a steel fabricating company. He has been associated with the American Coach & Body Co. for seven years. Mr. Kipp, who joined the organization this year, has been closely identified with the truck body business for 26 years.



BRITISH ACTIVE—British electrical manufacturing interests are actively cultivating Russian and other foreign markets. A mission from the famous British firm, English Electric Co., has been discussing Soviet government equipment needs particularly insofar as the Dnieper Dam plants are concerned. At left is shown some of the transformer cores and windings being erected at the Stafford Works, and at the right, the stator of a 9,000-kva., vertical-shaft, hydro-machine for Russia being assembled for testing

ISO Organization Completed, H. Coonley Elected Head

Howard Coonley, chairman of the executive committee of the American Standards Association, has been elected president of the new International Organization for Standardization, the formation of which has just been completed by delegates from 25 nations meeting in London. Gustave L. Gerard, staff president of the Belgian Standards Association, will be vice-president of the new international organization, which is expected to be known as ISO. Headquarters will be set up shortly in Geneva, Switzerland, according to present plans.

Formation of the new ISO consolidates into a single organization the work of the old International Federation of National Standardizing Associations (ISA) and that of the war-born United Nations Standards Coordinating Committee. The International Electrotechnical Commission, a third important standardizing agency, is expected to affiliate with ISO shortly as its electrical division.

Forty Standards Under Review

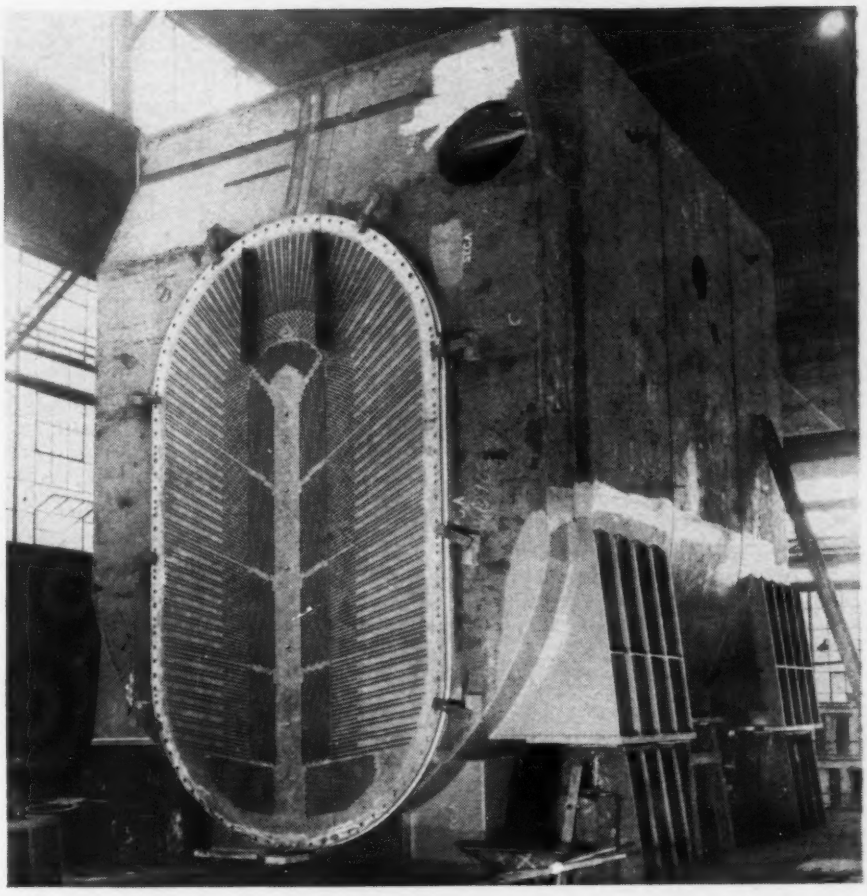
The members of ISO will be the national standards bodies. Its work will be carried out through technical committees upon which any country may be represented, if it so desires.

Technically the new ISO organization is "'provisional" and it will be formally completed when its constitution is ratified by 15 national standards bodies. The United Nations Standards Coordinating Committee will continue in existence and maintain its office in London until the ISO headquarters in Geneva is established.

Some 40 standardization projects are now being reviewed by the new organization. The three official languages to be used in the work will be English, French and Russian.

Dr. P. G. Agnew, vice-president of the American Standards Association, in commenting on the new organization stated that the development of international standards, tied closely with industry and international trade, will progress rapidly and effectively as a result of the new organization.

Mr. Coonley, the new ISO head, is a former president of the National Association of Manufacturers and of the American Standards Association. He was for many years chairman of the Walworth Co. and is still a director of that company. Mr. Gerard is president of the government-sponsored Institute Belge de Normalisation and was secretary of its predecessor, the Association Belge de Standardisation.



BIG BOYS—Two of the largest cross-flow condensers ever built have been completed by Foster Wheeler Corp. and are now being installed at Philadelphia Electric's Southwark Station. Each unit measures 35 ft. high, 46½ ft. in length, and 20 ft. in width, weighs 660,000 lb. empty and 1,300,000 lb. when tubes are filled with water. Units will be used to condense exhaust steam from 150,000-kw. turbines and will need water at the rate of 146,000 gpm. The tube sheets at each end of the condenser are the largest bronze plates ever rolled (11 ft. 7 in. by 21 ft. 1 in. and are 1½ in. thick) and weigh approximately 7 tons each. More than 65 miles of tubes are used and these weigh 86 tons

Phelps Dodge Raises Price of Copper 2¢ A Pound

Phelps Dodge Corp. advanced the domestic price of copper on November 20 two cents a pound to 19½. This was the first concrete reaction to the announcement that the United States government would withdraw from the foreign copper market when its present contracts terminate.

The gap between the foreign price of the metal, plus the import duty of 4 cents a pound, has been cut in half by the action of Phelps Dodge. The government had been buying foreign copper at 17½ cents a pound, the going market. However, it did not have to pay the excise duty and it sold the metal to domestic consumers at that level. With the government out of the picture, the domestic buyers of foreign copper must pay the excise duty which makes the present price of copper imported 21½ cents a pound.

That other producers would raise their prices in line with those established by Phelps Dodge became evident when the American Brass Co. within the next twenty-four hours advanced its prices for copper products 2 cents a pound, also making proportionate adjustments in prices of brass and alloy products. Anaconda Wire & Cable Co. also increased the prices of its wire products 1.7 cents to 2.2 cents a pound on November 21.

•

Change Name of Products

Fischer & Porter Co., Hatboro, Pa., manufacturers of variable area type flow rate instruments, heretofore called "rotameters," plans to change the name of its product to "flowrators."

Predict Highest Holiday Sales in Nation's History

The greatest variety of Christmas gifts since pre-war days is piling up in the nation's retail stores in anticipation of the biggest holiday season on record.

Most estimates agree that Christmas sales volume will run from 20 to 25 percent ahead of last year's record buying spree when the total of retail sales for the final three months was more than $22,794,000,000.

To the average family this yuletide will mark the return of many traditional gifts missing during the war years. In a survey of the Christmas gift supply, made by the National Conference of Business Paper Editors, the outlook in electric appliance lines was summed up this way: good supplies of electric irons, vacuum cleaners, toasters; limited number of mixers, juicers and other types needing fractional horsepower motors; refrigerators and washers short; ranges in fairly good supply.

Manufacturers Issue Earnings Reports

The following electrical manufacturing companies have recently issued earnings reports:

GENERAL CABLE—Nine months, net income, $1,333,719 or 35 cents a common share, against $1,509,015 or 48 cents a share last year. Company had a net loss of $1,008,929 for first six months of 1946. September quarter: net income, $2,342,658, or $1.11 a share.

CUTLER-HAMMER, INC.—Nine months ended September 30, net income $971,313, or $1.47 a share, against $1,003,112, or $1.52 a share.

LINE MATERIAL—Including domestic subsidiaries, nine months, net profit, $512,520, or $1.11 each on 460,314 capital shares, against $541,610, or $1.24 each on 437,912 shares last year.

JOSLYN MFG. & SUPPLY—Six months to June 30, net income, $615,433, or $3.52 a common share, against $513,213, or $3.02 a share last year.

SYLVANIA ELECTRIC PRODUCTS—Including wholly owned subsidiaries, for the quarter ended June 30, consolidated net income $980,732, equal after deducting preferred dividends to 88 cents per share on 1,005,000 shares of common stock. This compares with consolidated net income of $866,577 or 86 cents per common share for the second quarter of 1945 and a consolidated net loss of $422,264 for the first three months of 1946. Consolidated net sales for the quarter ended June 30 were $15,353,597, compared with $41,368,531 for the second quarter of 1945. For the six months ended June 30, 1946, net sales were $28,187,728 against $75,821,874 in the corresponding period of 1945. The report points out that sales for the first quarter and first six months of 1945 were the largest in the company's history.

FOUR WHEEL DRIVE AUTO—For fiscal year ended June 30, total sales, including government business, amounted to $18,628,835. Unfilled orders on June 30 amounted to more than $9,000,000.

PHILCO—Second quarter, operating profit $164,787, compared with a loss from operations of $2,569,471 in the first quarter, leaving an operating loss of $2,404,684 for the six months ended June 30. After estimated tax credits of $2,350,000, the net loss for the six months ended June 30 was $54,684, against a net income of $1,644,623 for the similar 1945 period.

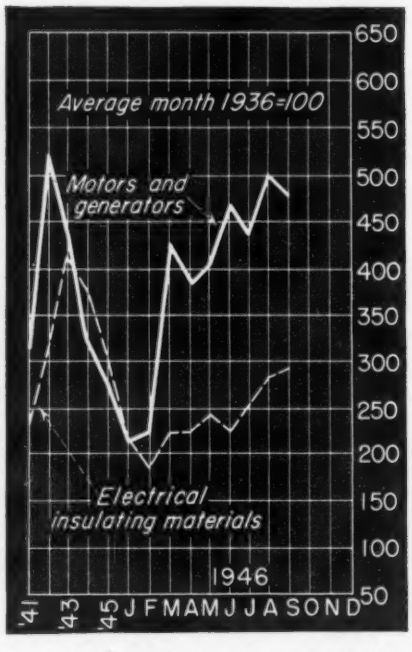
•

Generator Orders Drop; Insulating Materials Up

Orders received for motors and generators during the month of September dropped, according to figures released by the National Electrical Manufacturers Association. The index compiled by NEMA moved downward to 478 from 501 (revised) in August. This compares with 255.5 in September, 1945.

The 1942, 1943, 1944 and 1945 monthly indexes include an adjustment for cancellations reported up to December 31, 1945. No adjustment has been made for renegotiation of contracts.

Sales billed on electrical insulating materials for September advanced to 294 from 284 in August. This compares with 164 in September, 1945.



Philips Incandescent Co. Plans Doubling Exports

Twenty-six factories in 24 foreign countries, the United States, Great Britain, Ireland, Portugal, Spain, Australia, Egypt, New Zealand, British India, Canada, Belgium, France, Denmark, Sweden, Norway, Italy, Hungary, Romania, Yugoslavia, Czechoslovakia, Switzerland, Argentina, Brazil and Chile, are now being operated by the Philips Incandescent Lamp Co., Dutch producer of electrical and radio equipment, and its international subsidiaries, company officials recently revealed.

The officials revealed that the company's exports from Holland had already this year more than doubled in volume, and that present plans call for doubling exports again in 1947.

Export rate for October was 85 percent of the pre-war level on a comparable price basis, officials stated, and the average over-all 1947 export rate is expected to be 120 percent of pre-war. The over-all 1946 average is expected to be 65 percent, with 71 percent of production destined for export.

•

Intra-Union Split Starts at Allis-Chalmers Plant

A rank and file revolt against the leadership of Local 248 of the United Auto Workers Union, C.I.O., on strike at the Allis-Chalmers Manufacturing Co., West Allis plant is under way.

Petition cards have been circulated among Allis-Chalmers employees demanding removal of the present officers, Robert Buse, president; Joseph Dombek, vice-president; Fred McStroul, secretary, and Linus Lindberg, treasurer.

The cards circulated said:

"I, the undersigned, an employee of the Allis-Chalmers Manufacturing Co., do hereby repudiate all officers and members of the bargaining unit of Local 248, and therefore, demand their immediate removal. I also pledge my full support to any further action taken by the committee formed for this purpose."

Nearly 3,000 cards pledging support of the revolt and demanding the ouster of the union's officials have been signed and returned to the revolt leaders, according to a spokesman for the group. It has been necessary to have an additional 2,000 cards printed to meet requests, he said.

The right-wing element supporting the revolt charges that the local's membership has dropped from 7,000 to 1,000 under present leadership.

NEW EQUIPMENT

Pre-Tap for Self-Supporting Cable Developed

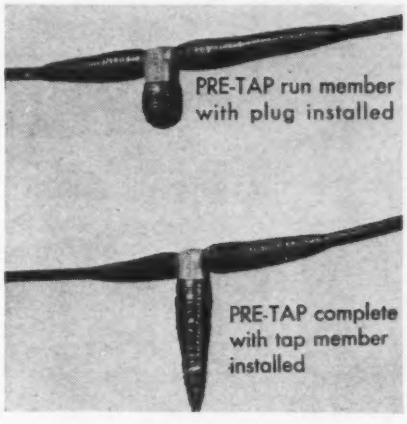
TO OVERCOME the hazardous and time-consuming operation of tapping self-supporting aerial cable at transformer points, Burndy Engineering Co., 107 Bruckner Blvd., New York 54, N. Y., announced a new tap connector known as the Pre-Tap type WT.

It consists of two fully insulated parts which can be purchased separately, known as the run-member and tap-member. The run-member is connected when the line is erected, and placed in predetermined locations in the line.

Where the tap is not immediately required, the open end of the run-member is closed by an insulating plug as illustrated. At any time, the plug can be removed and replaced with the tap; it can be safely done while the line is hot. Should the run-member be installed at the very end of an aerial cable run, the same plug is used to seal off the end of the Pre-Tap.

The run-member, shown above, is an insulated T-connector with extending tubular Hydent barrels which receive the bared ends of the aerial cable. This assembly is indented with a Burndy Hypress and taped. The inside lower portion of the run-member is a tapered socket, threaded at the entrance.

The tap-member consists of a tapered plug having an extended tubular barrel and a hollow, externally threaded nut, encased in a molded insulating sleeve. The tap conductor is passed through



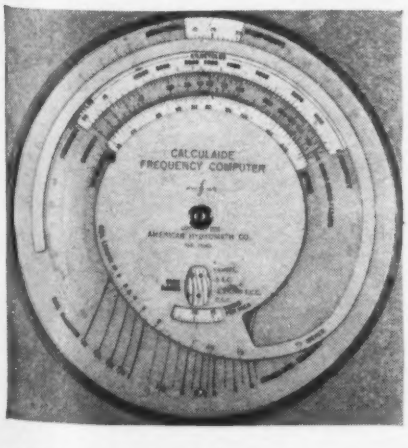
the insulated nut, into the barrel. This assembly is then indented with the company tool. Resting the shoulder of the plug against the insulated nut, the completed tap-member is inserted into the tapered socket of the run-member. The connection is made electrically and mechanically secure by tightening the nut.

It is claimed that arduous and time-consuming crotch taping is eliminated by using the new tap. The importance of this is stressed where connections must be made in higher voltage cables. In these instances, extremely cautious and highly skilled taping is necessary to prevent voids which might result in the formation of ozone with consequent breakdown of the taped joint.

• • •

Frequency Computer Solves Resonant Circuit Problems

PROBLEMS involving frequency, inductance and capacity are solvable with the "Calculaide" frequency computer devised by American Hydromath Co., 145 West 57th St., New York 19, N. Y. This new frequency computer correlates, in one setting, the natural frequency and wave length of a circuit comprising a coil and condenser with the physical dimension of the coil and the capacity of the condenser.



Since all answers are given at only a single setting, the computer simplifies resonant circuit calculations. Inductance values can be determined for widely varying physical dimensions of coils, such as high-power transmitting coils or the smallest single-layer receiver coils.

The computer's range covers frequencies from 400 kilocycles to 150 megacycles and wave lengths from 2 to 600 meters. It handles condensers of capacity between 3 and 1,000 microfarads. Inductance values which can be determined extend from 0.1 to 1,500 microhenrys. The device performs calculations with coils of ¼-in. to 5½-in. diameter, ¼-in. to 10-in. length, 2 to 150 turns per inch, of No. 10 to No. 35 gage wire.

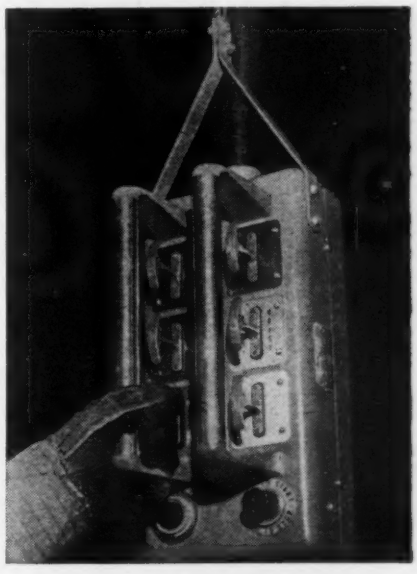
The frequency computer is produced from three sheets of Vinylite plastic. It is 6¼ in. in diameter, semi-flexible, and can be carried in the pocket.

•

Pendant Pull-Station Control For Floor-Operated Cranes

A PENDANT pull station control, a completely new system of control designed specifically for floor-operated cranes, has been announced by the control division of the General Electric Co., Schenectady, N. Y. Furnished for use on alternating or direct current with motors up to 15 hp. at 220 volts, the new control system can be used on cranes ranging in size from simple hoists to three-motion bridges.

The new control system consists of



a small magnetic control panel mounted on the crane and connected by a cable to a pendant station which is suspended from the crane. It provides five-point,

time-delay speed control for smooth, fast control of the crane movements. Because time-delay acceleration is provided in the pendant pull station, accelerating relays usually found on magnetic control panels are unnecessary, and therefore the size of the control panel is reduced.

The pendant station has one handle for each direction of crane motion. To operate a particular crane motor or crane motion, the corresponding handle is pulled. As the handle is pulled out, the crane motor accelerates to the speed indicated by the position of the handle in the operator's fingers. All crane motions can be controlled with one hand.

Several protective features are included in the new system, such as an emergency stop button which instantly cuts off the power from all crane motors. Operation cannot be resumed until this stop button is manually restored to the "on" position and the momentary-contact, reset button is depressed. The reset button prevents false operation after overload or undervoltage condition.

The pendant pull station, which weighs 8½ lb., may be suspended from the trolley of the crane to hang beside the load, or hung at a distance. For stationary hoists, it may be mounted on a rigid support or against the wall.

•

Circuit Breaker Trips By Thermal, Magnetic Means

A NEW MO-4 Multibreaker which has been designed for the protection of four single-phase circuits or less has been announced by the Trumbull Electric Manufacturing Co., Plainville, Conn. The new breaker is an improvement on the MO-2 and has automatic overcurrent and short circuit protection for branch circuits.

It is in the form of a circuit breaker with combined thermal and magnetic characteristics for greater tripping speeds. It may be used for protecting 10, 20 and 30-amp. circuits. The units are already in production.

MO4 Multi-Breaker Trips by Thermal, Magnetic Action

THE DEVELOPMENT of a new, improved Multi-Breaker, the MO 4, which is expected to be used extensively in homes and housing projects, has been announced by the Federal Electric Co., Newark, N. J.

The unit, which will be employed as a service entrance breaker and as a distribution load center, incorporates for the first time in a low-priced 4-pole unit both thermal and high speed magnetic tripping action. The MO 4, engineers state, will cost less and do a much better and more efficient job than the equipment it replaces.

Dual protection provided by the MO 4 operates as follows: The bimetal element functions only when a sustained overload or heavy short circuit occurs, and does not trip under harmless, momentary overloads. The magnetic trip clears the circuit instantly under moderate or heavy short circuit conditions.

Measuring 5 1/16 in. wide, 7 1/16 in. high, and 2⅞ in. deep, the unit is unusually small in size. The magnetic trip is coilless. The device will be available in single-pole branch circuit capacities of 15, 20 and 30 amp.

By means of a handle tie furnished with each unit, it can be converted to a device with one or two double-pole, 3-wire circuits.

• • •

Unit Checks and Compares Ferromagnetic Materials

THE FERROGRAPH, developed to provide a convenient method of comparing ferrous materials both as to their chemical analysis and their heat treatment, is now being released in its latest refined form by the Allen B. Du Mont Laboratories, Inc., Passaic, N. J. This instrument, based on the correlation between magnetic properties, particularly remanent magnetism which predominates at the low frequency that is used, and metallurgical properties, makes possible the determination of composition and condition of ferromagnetic materials by magnetic testing, with the cathode-ray tube as the instantaneous indicator.

The basic principle of operation of the unit is the harmonic analysis of the induced voltage in the secondary of a test transformer in which the sample to be tested is made the core. By indicating the amplitudes and phase angles of the fundamental and third harmonic components, it is reported to serve for most practical problems in industry, and to provide an instrument not too involved for use by unskilled industrial personnel. It uses an energizing field of a frequency below 25 cps., which is reported to provide reversals of the magnetic field slow enough so that an appreciable effect is obtained from the remanent magnetism. The complete wave forms are visible and the phase angles can be measured and compared by relatively unskilled personnel.

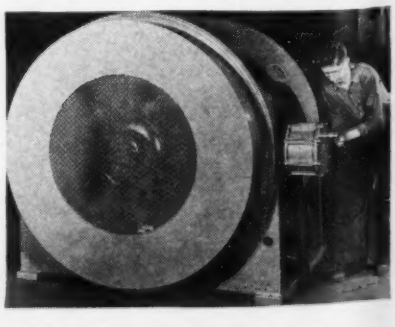
The Ferrograph, housed in a steel case measuring 14 in. high by 18 in. wide by 24 in. deep, equipped with two carrying handles, is completely self-contained with its own power pack and operates on 110-volt a.c. supply. It weighs 115 lb.

•

Totally Enclosed, Outdoor Motors Made in Large Sizes

A COMPLETE LINE of outdoor weatherproof, totally enclosed motors in the larger sizes ranging up to and above 2,000 hp. has been announced by Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Principal change in the new line of



motors in the larger ratings is a complete redesign of the ventilation heat-transfer system. All air passages are practically self cleaning and pockets in which water or liquid might be trapped have been eliminated. Air passage tubes can be cleaned with a brush or an air or water hose.

The new totally enclosed all-fabricated steel motor is expected to find particular application in central station power plant service in connection with draft fans and in the chemical industry. The motor illustrated is a 600-hp., 2,300-volt, 880-rpm., 3-phase, 60-cycle motor of the new ANZZ type.

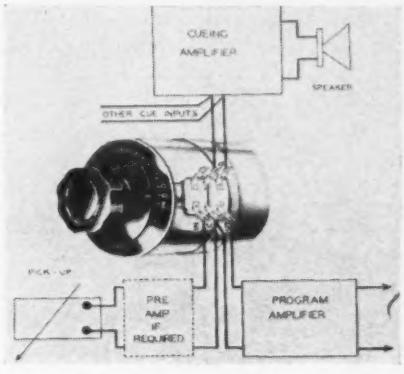
•

Built-In Cueing Control in Line of Attenuators

BUILT-IN Cueing Control is now available in company's line of attenuators, the Daven Co., 191 Central Ave., Newark 4, N. J., reveals.

The control itself serves to transfer program materials to a separate cueing amplifier and thereby eliminates the need for additional switching devices. Provision is made at the extreme position for connecting the incoming signal to a cue circuit before "fading in" the signal. As a result, a program can be smoothly "brought in" at the right time without the operation of any additional switches. A lug is provided for connection to the cueing system.

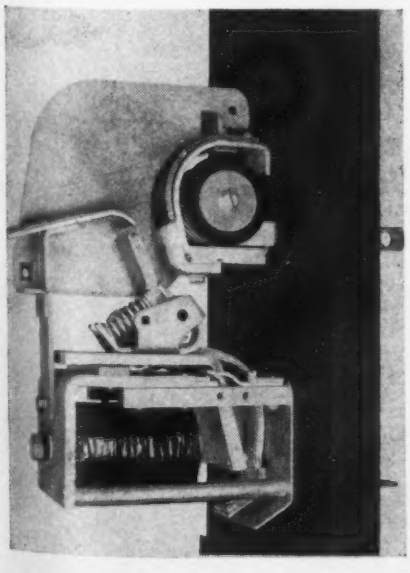
The cueing feature may be supplied on all the company's attenuators. However, it is primarily recommended on those controls used for mixing purposes, which are provided with a taper to infinity the Daven Co. reports.



•

Mill-Type Contactors Have Capacity to 2,500 Amp

AN IMPROVED LINE of d.c. mill-type contactors designed for use in marine, steel mill, and similar heavy-duty applications has been announced by the control division, General Electric Co., Schenectady, N. Y. There are nine contactors in the line, all of similar construction and ranging in capacity from 100 to 2,500 amp. Two are of normally closed construction, and the rest are normally open. All parts can be serviced and inspected from the front of the control panel without removing the contactor.



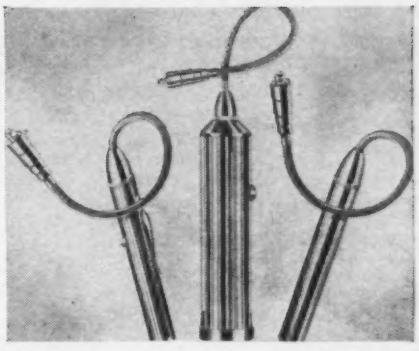
Frames and armatures of the contactors are constructed of cold-rolled steel. Copper contactor tips wipe in and close under pressure of a strong steel spring. The company's rocker bearing design is used on all the contactors. The restricted "free" bearing construction is reported to prevent dirt and dust from accumulating between the bearing surfaces.

Electrical or mechanical interlocks can be easily installed or changed, since the holes for mounting them are predrilled at the factory. Varnish-impregnated, layer-wound coil construction helps eliminate coils short circuiting between turns. Long, braided copper wire shunts are placed so that shunt flexure is slight and distributed over the entire length of the shunt. Copper bar terminals have the incoming lines bolted directly to them, eliminating the necessity for copper studs.

•

Flashlight Shoots Light Into Inaccessible Places

A NEW LINE of flashlights, called "Flex-Lites," has been developed by Aero-Motive Mfg. Co., 1803 Alcott St., Kalamazoo 24, Mich. It is available



in three models, each with a long flexible extension bulb-retainer which replaces the conventional bulb assembly.

They are made of polished aluminum and are waterproofed. The Junior model (right) with the screw type switch in the base and the Junior Deluxe model (left) with the pocket clip and the thumb type sliding switch have over-all lengths of 15 in. and use two standard size AA Penlite batteries. The Master model, 16½ inches over-all, uses two regular size flashlight batteries and also has a thumb type switch.

•

One-Kilowatt Induction Generator for Soldering

A NEW 1-kw. electronic power generator, developed for brazing and soldering in medium and small operations, has been announced by the Radio Corp. of America, Camden N. J.

The new generator, Model 1-AL, is a vacuum tube unit which converts 60-cycle power to a frequency of approximately 400,000 cycles per second. It consists of two units—the generator proper and an applicator unit. Only the applicator need be at the work position, and it may be located at any desired position within a 25-ft. radius of the generator. The necessary connecting and remote control cables are provided with the unit.

The generator unit houses the oscillator components, the regulated power supply, the high-voltage rectifier, and most of the high-frequency elements. It also contains an automatic timing device for presetting the interval of operation, an automatic overload relay switch, a plate current meter, and indicator lights for plate and filament voltage.

The applicator unit houses the output current transformer and its associated high-frequency "tank" circuit components. This arrangement permits operation of the units at some distance from each other with low transmission line currents, and minimized transmission line losses. The applicator also

contains an on-off switch for normal keying at the work position. In addition, provision is made for connecting a foot pedal switch to actuate the plate power contactor.

•

New Krane Kar Model Has Swing of 270 Deg.

A NEW Model A J Krane Kar, which has been developed for handling lighter loads than previously announced models, has been developed by the Silent Hoist Winch & Crane Co., 841 63rd St., Brooklyn, N. Y.

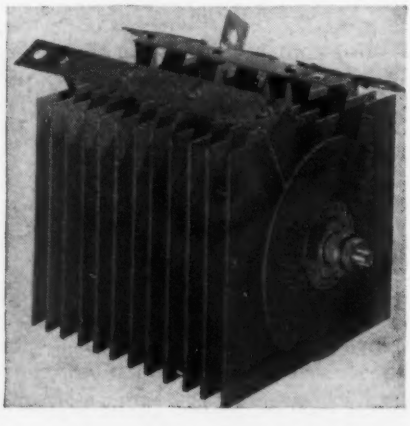
The new model has a lifting capacity of 2,500 lb. at 5½ ft. from the front axle, equivalent of 3½ ft. clear of the front bumper, through a swing of 270 deg. The crane mechanism is equipped with three separate reversing worm-geared units—one each for hoisting, swinging and topping by power.

Chassis is fitted with a one-man seat, front bumper, wheel fenders and an electric cylinder gasoline engine furnished with air cleaner, oil filter and radiator thermostat. The unit has a 4-speed forward and a 4-speed reverse transmission, a 4-speed power take-off, and a boom, telescopic and adjustable from 10 to 16 ft. It has a top traveling speed of 20 mph. in forward or reverse.

•

High-Current Capacity Selenium Rectifier Plates

DEVELOPED specifically for high-current capacity and applicable for such services as electroplating and battery charging, are the new 5 x 5¾-in. selenium rectifier plates built of aluminum and now being produced by Radio Receptor Co., Inc., 251 West 19th St., New York 11, N. Y. Stacks made of these plates may be arranged in series or parallel combinations depending upon circuit requirements and are reported to have maximum heat dissipation per pound weight.

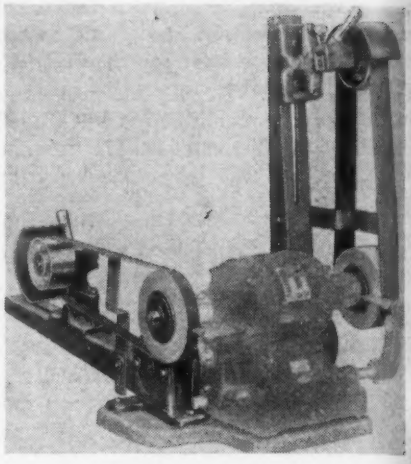


Grinder Attachment Cleans Electrical Contacts

A LIGHT, narrow-belt grinder attachment, type N-2, suitable for cleaning up contacts as well as other light burring and grinding operations, has been developed by Porter-Cable Machine Co., Syracuse, N. Y. The attachment is furnished without motor and is quickly aligned and attached to the familiar bench type wheel grinder, to which a resilient contact roll has been fitted.

The unit assembled stands 27 in. high with a width of 2½ in. A 6 x 7-in. T-shaped base is drilled with three holes for convenient mounting to the bench or work table. Platen size for flat grinding is 2 x 4 in. Resilient contact rolls 2 x 6 or 1 x 6 in. are available.

Using an endless abrasive belt 2 x 48 in., the attachment can be used either in the vertical, horizontal or any angular position between the 90 degrees.



• • •

Thermal Insulator Usable Up to 2,000 Deg. F.

A NEW LIGHT-WEIGHT insulating material designed to operate in temperatures up to 2,000 deg. F. has been announced by H. I. Thompson Co., 1733 Cordova St., Los Angeles 7, Calif. The material, called Refrasil, is produced by extracting nearly all constituents, other than silica, from Fiberglas, leaving a fibrous material essentially pure silica. It was developed originally for use on jet-propelled planes but, because of its properties, is now being tested in insulating power and high-temperature process equipment and piping. It is available in bat and cloth forms.

The bats are now available in rolls approximately 14 ft. long and 3½ ft. wide. It has an average thickness of $\frac{5}{16}$ in., an approximate surface density of 0.05 lb. per sq. ft., and an average bulk density of 4 lb. per cu. ft.

Other properties reported are: temperature at which softening begins, 2,400 deg. F.; fusing point, 3,150 deg. F.; no appreciable shrinking after exposure to 2,000 deg. F. and no appreciable moisture content; moisture pickup at 70 deg. F. in 60 percent humidity for 6 hr., less than 0.5 percent. Fiber diameters are reported as 0.00023 in. average, and chemical properties essentially the same as silica. Thermal conductivity tests are being continued to obtain further data.

The white woven cloth is now available in rolls of random length approximately 32 in. wide. It has a reported thickness of 0.015 in. and a surface density of 0.017 lb. per sq. in. (average). Other properties are the same as that of the bats.

Tapes, cords, and sleevings are also being produced on a limited scale at the present time.

• • •

Oil Regulating Valve Uses Key Adjustment, Lock

A NEW sight feed valve for oil circulating systems which incorporates a key flow adjustment and lock and an unbreakable plastic viewer has been developed by Oil-Rite Corp., 3475 South 13th St., Milwaukee 7, Wis. They are used where the rate of flow must be visually checked and regulated, permitting occasional adjustment or fixed setting, and are adapted to systems or multiple oiler arrangements for feeding a number of bearings from a single reservoir.

In operation, the oil flows past an adjustable port through a valve nozzle into a sight chamber where the flow can be observed. The flow through the port is adjustable by a combination set screw and a hollow lock screw from a steady flow, to a slow drip or complete stoppage. The adjustment screw is located within the body of the unit directly above the sight.

To adjust the oil flow, a standard hexagonal key is inserted through the hollow lock screw into the set screw and turned until proper flow is obtained. To lock at the desired setting, partly withdraw the key until it engages only the hollow lock screw and then tighten to retain that setting.

The unit consists of two main parts: the sight feed housing of hexagonal stock with the viewing window and the regulating unit which screws into the sight feed housing.